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November 15, 2019

Julie Sullivan
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75 Hawthorne Street
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Subject: Annual Performance Evaluation Report,
Interim Groundwater Containment Remedy,
Omega Chemical Superfund Site, Whittier, California

Dear Ms. Sullivan:

Enclosed for your review is the Annual Performance Evaluation Report for the Operable Unit 1 (OU-1) Interim Groundwater Containment Remedy (GCR), Omega Chemical Superfund Site, Whittier, California. The purpose for this report is to provide the USEPA with data associated with the operations of the OU-1 Groundwater Containment Remedy during the third quarter 2019, and annual updates as required.

This report complies with the requirements in the April 2007 Performance Standards Verification Plan, Operations, Maintenance, and Monitoring Manual for the operation of the GCR. Overall, this report is being provided to satisfy the data reporting requirements defined under Section IX of the February 2001 Consent Decree No. 00-12471 between the USEPA and OPOG by presenting data collected during the period and providing evidence that the GCR is compliant with the OU-1 Groundwater Removal Action Objectives.

Should you have any questions, regarding the above, please contact me.

Sincerely,

Omega Chemical Site PRP Organized Group

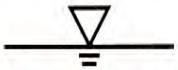


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cc: Don Indermill, DTSC



de maximis, inc.

NOVEMBER 15, 2019

INTERIM GROUNDWATER CONTAINMENT REMEDY
ANNUAL PERFORMANCE EVALUATION REPORT
THIRD QUARTER 2019
OMEGA CHEMICAL SUPERFUND SITE, OU-1

Prepared for:

Omega Chemical Site
PRP Organized Group
(OPOG)

Prepared by:

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INTERIM GROUNDWATER CONTAINMENT REMEDY OPERABLE UNIT 1 OMEGA CHEMICAL SUPERFUND SITE

Annual Performance Evaluation Report Third Quarter 2019

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INTERIM GROUNDWATER CONTAINMENT REMEDY OPERABLE UNIT 1 OMEGA CHEMICAL SUPERFUND SITE

Annual Performance Evaluation Report Third Quarter 2019

1. INTRODUCTION

This Annual Performance Evaluation Report has been prepared for the Interim Groundwater Containment Remedy (GCR) on behalf of the Omega Chemical Site Potentially Responsible Parties Organized Group (OPOG) to comply with the February 2001 Consent Decree (CD) No. 00-12471 between the USEPA and OPOG (USEPA, 2001). As stated in the September 2005 Removal Action Memorandum (USEPA, 2005), the primary goal of the selected remedy is to contain the highest levels of contamination dissolved in groundwater within Operable Unit 1 (OU-1), so that the contamination does not migrate and contribute to the downgradient regional groundwater plume. To achieve this goal, the GCR was installed and began operating in 2009. The location and components of the GCR are presented on Figure 1.

The GCR Remedial Action Objective (RAO) monitoring requirements are specified in the Performance Standards Verification Plan (PSVP) (CDM, 2007). Updated monitoring requirements will be included in the Final OU-1 Groundwater Containment System Operations Monitoring & Maintenance (OM&M) Manual. The Draft OM&M Manual was submitted to the USEPA on July 3, 2019 and is currently under review by the USEPA. Current monitoring requirements are as follows:

- GCR operational data are collected to support the determination of compliance with the second RAO (RAO #2, treated vapor emissions and treated groundwater discharge) as well as to conform to the requirements of the PSVP and the current OM&M Manual (CDM, 2010). These data are included in Section 2.
- Quarterly piezometric data from the PSVP-specified monitoring locations are plotted to illustrate that groundwater flow is toward the pumping wells (CDM, 2005). The goal of this monitoring is to verify that vertical and hydraulic containment of groundwater

contamination within OU-1 is achieved. According to the CD, these data provide the primary documentation of containment required by RAO #1 (USEPA, 2001). These data are included in Section 3.

- Annually, a particle tracking figure is prepared that simulates the hydraulic capture zone within the OU-1 boundary (CDM, 2007). The simulated capture zone is used to support the piezometric capture analysis. This analysis is conducted as part of the Annual Performance Evaluation Report. This analysis supports the documentation of containment required by RAO#1 and is discussed in Section 3.
- Annually, concentration trends at downgradient wells OW-9 and OW-10 are evaluated using the Mann-Kendall test on cumulative historical tetrachloroethene (PCE), trichloroethene (TCE), and 1,4-dioxane concentrations, and over the most current three-year period (OPOG, 2016). This analysis is conducted as part of the Annual Performance Evaluation Report. This analysis supports the documentation of containment required by RAO#1 and is discussed in Section 3.
- Semi-annual water quality monitoring data are plotted on time-series charts to show concentration trends (CDM, 2007). These data are collected during the first and third quarter monitoring events and are used to further demonstrate horizontal and vertical containment. Results of the water quality monitoring are summarized in Section 4.

2. GCR SYSTEM OPERATIONS THIS QUARTER

The GCR System was operational for the majority of the third quarter; however, as described below, leak detection activities resulted in approximately one month of down time. Below is a list of operations and maintenance non-routine items which occurred during the third quarter;

- As a result of alarm testing conducted during the second quarter, it was determined that the discharge pipeline high pressure switch and the high air stripper blower pressure switch were faulty and required repair and/or replacement. These switches were replaced in the third quarter.
- The GCR was shut down on June 26, 2019 (with the conveyance lines drained) in preparation for leak detection activities conducted in the third quarter. During testing, monitoring of the primary conveyance pipe showed no pressure decrease, and no

concurrent pressure increase in the secondary conveyance pipe, indicating that there were no apparent leaks from the primary conveyance piping. During subsequent testing, monitoring of the secondary conveyance pipe indicated a small observed pressure drop. This may have been due to minor leaks observed in the transition fittings where the conveyance piping enters the extraction or dual phase extraction well vaults (well vaults). Given the pressure drop in the secondary conveyance piping was relatively small, the system was restarted on July 23, 2019 with no apparent significant leaks found in the primary or secondary conveyance piping. Minor repairs to identified leaks in well vaults as a result of leak detection activities (which occurred during the second quarter) were conducted in October, which included applying a silicone sealant in the affected areas.

- The GCR was shut down between July 27 and July 29, 2019 due to needed adjustments to the air stripper air damper.
- The GCR was shut down between August 20 and August 21, 2019 due a fault in the Human-Machine Interface (HMI).

The GCR had an operational run time of approximately 67 percent during the third quarter and approximately 88 percent over the previous 12 months (Table 1). Approximately 1.9 pounds of Volatile Organic Carbon (VOC) mass were removed from treated groundwater (via the air stripper) during the third quarter, compared to 3.3 pounds removed during the previous quarter. Approximately 10.8 pounds of VOC mass was removed over the previous 12 months. Figure 2 shows the cumulative mass removed since 2009. The total gallons of water treated during the Second Quarter 2019 and Third Quarter 2019 was 740,100 and 600,300 gallons, respectively.

EXTRACTION WELLS

The Extraction Wells (EWs) (EW-1 through EW-5) were mechanically functional this quarter. Attachment A, Table A-1 includes measurements for each EW for the last 12 months, including pump runtime, extracted volume, operational flow rate, average flow rate, and calculated mass removed. The measured depth to water (during the quarterly piezometric monitoring) and targeted extraction interval (i.e. screen interval) are discussed in Section 3.

In addition to the five GCR EWs, seven dual-phase extraction (DPE) wells are extracting groundwater within OU-1. These DPE wells were constructed in 2014 as part of the Full Scale On-Site (OU-1) Soil Remedy under the 2010 Consent Decree between the USEPA and OPOG

(USEPA 2010). These wells are designated DPE-3, DPE-4, DPE-5, DPE-8, DPE-9, VE-7D, and VE-10D, and are shown on Figure 1. Although installed as part of the OU-1 soil remedy to increase subsurface vapor removal, the DPE wells are currently extracting most of the water and contaminant mass. Pumping from the DPE wells accounted for approximately 97% of groundwater extracted this quarter.

Other groundwater data collected during the quarter, including data from groundwater pumped from the DPE wells, are summarized in Attachment B. This includes operational information such as volume of groundwater extracted this quarter, targeted extraction interval (i.e. screen interval), approximate depth to water, analytical data (if collected), and calculations of mass removed per pumping well, if applicable. Laboratory analytical results and associated data validation reports are included in Attachment C.

AIR STRIPPER

VOC concentrations in groundwater prior to and after treatment by the air stripper are summarized in Table 2 for the previous 12 months. These data show continued effectiveness in transferring VOCs from the aqueous phase to the vapor phase for treatment by the Vapor Phase Granular Activated Carbon (VGAC). Air stripper influent concentrations over time are shown on Figure 3. Laboratory analytical results and associated data quality assessments are included in Attachment C.

TREATED VAPOR DISCHARGE

The GCR operated in accordance with treated vapor discharge limits and VGAC operations requirements. The carbon changeout criteria were not triggered during this quarter or the previous 12 months (Attachment A, Table A-2). The VGAC change out criteria are currently based on the existing Health Risk Assessment (CDM Smith, 2015), which is currently undergoing revisions. The revised Health Risk Assessment was submitted to the USEPA on March 18, 2019 and is currently under review by the USEPA. The most recent carbon changeout for the GCR was conducted on March 23, 2015.

Table 3 shows the chemical-specific concentrations in the VGAC influent, midpoint, and effluent and effluent discharge limits for the previous 12 months. Attachment A, Table A-2 show VGAC operational conditions for flow rate, temperature, and total VOC emissions as indicated by a Photo Ionization Detector (PID).

TREATED EFFLUENT DISCHARGE

Discharge compliance samples are collected on a quarterly basis from the designated sample collection point (20039A) to confirm compliance with the current County Sanitation Districts of Los Angeles County (SDLAC) Industrial Waste Discharge Permit (No. 20039). The SDLAC permit is dated August 8, 2017 and is scheduled to expire on August 7, 2022. The results for the quarterly effluent samples were provided to SDLAC in the self-monitoring report (Attachment D). The analytical results show that all analytes were within SDLAC permit limits or were non-detectable above reporting limits.

3. QUARTERLY PIEZOMETRIC MONITORING

A network of five EWs, 11 groundwater observation wells, and four piezometers are included in the quarterly piezometric monitoring. The quarterly piezometric data are provided in Attachment E, Table E-1. Included in this table are the screen interval (which would equate to the target extraction interval in the listed EWs), and approximate depth to water. Historical piezometric data are presented in time series charts in Attachment E, Figures E-1 through E-20. Note that observation wells OW-4a and OW-4b, included in the PSVP, were transferred out of the OU-1 program in 2017 and are now monitored by OPOG and other Settling Work Defendants as part of OU-2 in accordance with the OU-2 Consent Decree (USEPA 2017).

Attachment F provides a review of the piezometric conditions during the third quarter piezometric monitoring. As demonstrated by Figure F-1, horizontal containment of OU-1 groundwater continues to be achieved. It is also noted that the regional drought conditions and the pumping from Full Scale On-Site (OU-1) Soil Remedy DPE wells have reduced water levels locally to below the pump intake of some GCR extraction wells. The combination of all these factors has essentially dewatered the aquifer within the OU-1 boundary, and thus is providing horizontal containment.

Vertical gradients are examined at a well triplet and two well pairs (Figure F-2). There is minimal hydraulic connection between the shallow extraction zone (A-Zone) and the deeper B-Zone due to the presence of a confining layer which prevents significant downward vertical transport (Figure F-4). The significant head differential between the A-Zone and B-Zone is further evidence of very limited hydraulic connection between the zones.

GROUNDWATER MODEL UPDATE AND FLOW TRACKING FIGURE

The annual groundwater model update was completed this quarter, and a simulated flow tracking figure was prepared for each quarter of the annual reporting cycle. A memorandum summarizing the model update and presenting the simulated flow figures is included in Attachment G. The simulated flow tracking figures confirm the piezometric contours that demonstrate horizontal capture of OU-1 groundwater.

Field forms for the quarterly piezometric monitoring and semi-annual water quality monitoring (if conducted) are included in Appendix H.

MANN-KENDALL ANALYSIS

The results of the annual Mann-Kendall analysis conducted on data from observations wells OW-9 and OW-10 are presented in Attachment I. This analysis shows statistically significant declining trends in concentrations over the historical data collection period for PCE and TCE. The 1,4-dioxane concentrations at both locations over the historical period show a weak downward trend or stable (no trend), with low statistical significance. The concentrations of 1,4-dioxane at OW-10 are difficult to evaluate statistically due to multiple non-detect results and variable method reporting limits (see Figure E-35) The concentrations of PCE, TCE, and 1,4-dioxane at both locations over the most recent three year period are shown to have weak downward trends to stable (no trend), with low statistical significance.

4. SEMI-ANNUAL WATER QUALITY MONITORING

A network of five EWs and 11 groundwater observation wells are included in semi-annual water quality monitoring, conducted in the first and third quarters. Concentrations of PCE, TCE, 1,4-dioxane, and other analytes in samples collected during this quarter are presented in Attachment E, Table E-2. Historical data from these locations are presented in time series charts in Figures E-21 through E-36. Field forms for the semi-annual monitoring are included in Attachment H. Analytical laboratory reports and data validation reports are included in Attachment C.

5. SUBMITTALS DURING THE QUARTER

The following submittals were provided to USEPA this quarter as part of the OU-1 GCR:

- Draft Groundwater Treatment System Operations, Maintenance and Monitoring Manual (July 3, 2019)
- Responses to EPA Comments Regarding OPOG's First Quarter 2019 OU-1/OU-3 AOC Reports (July 19, 2019)
- Interim Groundwater Containment Remedy Quarterly Performance Evaluation Report, Second Quarter 2019 (August 15, 2019)

6. PLANNED ACTIVITIES

Planned operational and monitoring activities scheduled for the fourth quarter include the following:

- SDLAC flow meter calibration
- Semi-annual alarm testing
- Air stripper cleaning
- Quarterly piezometric monitoring
- Repair of any minor leaks in well vault penetrations and connections (if necessary and feasible)
- Monthly assessment of VGAC effectiveness and need for carbon changeout
- Monthly and quarterly assessment of data to determine if system adjustments are appropriate
- Quarterly performance reporting

7. REFERENCES

- CDM. (2005). *Removal Action Plan and Preliminary Design Report*, December 16.
- CDM. (2007). *Performance Standards Verification Plan for Phase 1a Area Groundwater Treatment System*, April 19.
- CDM. (2010). *Final Operations, Maintenance, and Monitoring Manual*, February 19
- CDM Smith. (2015). *Memorandum: Treatment of Effluent from Groundwater Treatment System and Soil Vapor Extraction, Omega Chemical Superfund Site, Whittier, California 90602*, February 26.
- OPOG. (2016). OPOG Responses to EPA Comments dated March 10 and 21, 2016. Draft 2015 Annual PSVP Report, Omega Chemical Superfund Site, Whittier, California, August.
- USEPA. (2001). *Consent Decree No. 00-12471*, February 28
- USEPA. (2005). *Removal Action Memorandum*, September 27
- USEPA. (2010). *Consent Decree Docket No. 10-05051*, October 6
- USEPA. (2017). *Consent Decree No. 2:16-cv-02696-GW-E*, March 31

TABLES

Table 1
GWTP Operational Summary and Mass Removed Totals
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2018 - September 2019

Month	GWTP Runtime Percent ¹ (%)	GWTP Runtime Hours (hrs)	Operational Flow Rate ² (gpm)	Average Flow Rate ³ (gpm)	Total Gallons Processed ⁴ (gal)	Mass Removed ⁵ (lbs)
October 2018	95	707	4.8	4.6	203,450	0.9
November 2018	95	685	4.8	4.6	199,300	0.7
December 2018	96	715	4.9	4.7	207,800	0.7
January 2019	100	742	5.2	5.2	230,600	1.0
February 2019	96	647	5.8	5.6	224,200	1.0
March 2019	94	701	5.9	5.5	244,900	1.3
April 2019	92	663	6.2	5.7	247,000	1.0
May 2019	100	742	5.6	5.6	248,300	1.4
June 2019	83	596	6.8	5.7	244,800	0.9
July 2019 ⁷	17	126	N/A	N/A	68,400	N/A
August 2019	87	647	7.2	6.3	281,900	1.0
September 2019	98	704	5.9	5.8	250,000	0.9
Annual	Average = 88	Average = 640	Average = 5.7	Average = 5.4	Total = 2,650,650	Total = 10.8
				Cumulative Total⁶	44,416,765	977.6

Notes:

1. GWTP Runtime Percent is the percentage of total hours in the month that the GWTP actually operated.
2. Operational flow rate calculated from total gallons processed in the month and hours the GWTP actually operated in the month.
3. Average flow rate is calculated from total gallons processed in the month and total hours in the month, regardless of GWTP uptime.
4. Total gallons processed includes groundwater pumped to the GWTP from the Full Scale On-Site (OU-1) Soil Remedy DPE wells.
5. Mass removed is calculated from the average VOC concentration in the air stripper influent and discharge, and the total gallons processed. See Table 3.
6. The GWTP has to date treated 44,416,765 gallons of water and removed a cumulative total of 977.6 pounds of contaminant. See Figure 2.
7. Due to limited runtime in July 2019, the Operational Flow Rate and Average Flow Rate were not calculated.

In addition, the mass removed was not calculated as no analytical data was available (no Vapor Phase GAC influent/effluent samples were collected).

gpm = gallons per minute

hrs = hours

gal = gallons

lbs = pounds

N/A = Not Applicable

Table 2
Air Stripper Influent and Effluent Concentrations Demonstrating Proper System Function
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2018 - September 2019

Sample ID	Sample Date	PCE	TCE	MeCL	1,2-DCA	Freon 11	Freon 113
OC_SP210_INF_101218	10/12/2018	290	33	5 U	2.7	21	94
OC_SP220B_EFF_101218	10/12/2018	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_110918	11/9/2018	260	28	5 U	2.7	19	81
OC_SP220B_EFF_110918	11/9/2018	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_121818	12/18/2018	220	29	25 U	5 U	27	100
OC_SP220B_EFF_121818	12/18/2018	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_012419	1/24/2019	300	30	25 U	5 U	19	110
OC_SP220B_EFF_012419	1/24/2019	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_022019	2/20/2019	320	37	5 U	4.1	21	110
OC_SP220B_EFF_022019	2/20/2019	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_031319	3/13/2019	340	40	10 U	2.5	23	150
OC_SP220B_EFF_031319	3/13/2019	1 U	1 U	5 U	1 U	1 U	5 U

Table 2
Air Stripper Influent and Effluent Concentrations Demonstrating Proper System Function
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2018 - September 2019

Sample ID	Sample Date	PCE	TCE	MeCL	1,2-DCA	Freon 11	Freon 113
OC_SP210_INF_041619	4/16/2019	270	28	25 U	5 U	22	93
OC_SP220B_EFF_041619	4/16/2019	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_051619	5/16/2019	360	39	25 U	5 U	29	170
OC_SP220B_EFF_051619	5/16/2019	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_061319	6/13/2019	240	22	20 U	2.3 J	19	120
OC_SP220B_EFF_061319	6/13/2019	1 U	1 U	5 U	1 U	1 U	5 U
OC_SP210_INF_080219	8/2/2019	230 J-	26 J-	25 UJ	5 UJ	17 J-	97 J-
OC_SP220B_EFF_080219	8/2/2019	1 UJ	1 UJ	5 UJ	1 UJ	1 UJ	5 UJ
OC_SP210_INF_090519	9/5/2019	210	33	5 U	2.5	24	99
OC_SP220B_EFF_090519	9/5/2019	1 U	1 U	5 U	1 U	1 U	5 U

Notes:

INF = Air stripper influent water. Untreated water sample collected downstream of bag filters.

EFF = Air stripper effluent water. Treated water sample collected in discharge header upstream of SDLAC sample box.

All results are in micrograms per liter (ug/L)

U = not detected above reporting limit listed

J = analyte was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

J- = quantitatively estimated

J- = result is an estimated quantity, but the result may be biased low

PCE = Tetrachloroethene; TCE = Trichloroethene; MeCL = Methylene chloride; 1,2-DCA = Dichloroethane

Table 3
Vapor Phase GAC Concentrations Demonstrating Substantive Compliance with SCAQMD Regulations
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2018 - September 2019

SCAQMD Chemical-Specific Effluent Limit ¹			268.6	13.4	60	4.6	20	31.2	20	13
Sample ID	Sample Date	Units	PCE	TCE	1,1-DCA	1,2-DCA	BZ	MeCl	VC	CFM
OC_VGAC_INF_SP241_101218	10/12/2018	ppbv	65	10	1.2 U	1.2 U	1.2 U	12 U	1.2 U	5.1
OC_VGAC_INT_SP245_101218	10/12/2018	ppbv	1.2 U	1.2 U	1.2 U	1.6	1.2 U	12 U	1.2 U	6.1
OC_VGAC_EFF_SP242_101218²	10/12/2018	ppbv	1.2 U	12 U	1.2 U	4.8				
OC_VGAC_INF_SP241_110918	11/9/2018	ppbv	69	11	1.1 U	1.1 U	1.1 U	11 U	1.1 U	6
OC_VGAC_INT_SP245_110918	11/9/2018	ppbv	1.1 U	1.1 U	1.1 U	1.7	1.1 U	11 U	1.1 U	5.8
OC_VGAC_EFF_SP242_110918	11/9/2018	ppbv	1.3 U	13 U	1.3 U	4.4				
OC_VGAC_INF_SP241_121818	12/18/2018	ppbv	62	9.1	1.1 U	1.1 U	1.1 U	11 U	1.1 U	4.4
OC_VGAC_INT_SP245_121818	12/18/2018	ppbv	1.1 U	1.1 U	1.1 U	1.2	1.1 U	11 U	1.1 U	4
OC_VGAC_EFF_SP242_121818	12/18/2018	ppbv	1.1 U	11 U	1.1 U	2.8				
OC_VGAC_INF_SP241_012419	1/24/2019	ppbv	68	9.4	1.2 U	1.2	1.2 U	12 U	1.2 U	5.6
OC_VGAC_INT_SP245_012419	1/24/2019	ppbv	1.2 U	12 U	1.2 U	3.7				
OC_VGAC_EFF_SP242_012419	1/24/2019	ppbv	1.1 U	11 U	1.1 U	3.4				
OC_VGAC_INF_SP241_022019	2/20/2019	ppbv	79	11	1.2 U	1.7	1.2 U	12 U	1.2 U	6.9
OC_VGAC_INT_SP245_022019	2/20/2019	ppbv	1.1 U	1.1 U	1.1 U	1.4	1.1 U	11 U	1.1 U	4.1
OC_VGAC_EFF_SP242_022019	2/20/2019	ppbv	1.1 U	11 U	1.1 U	3.6				
OC_VGAC_INF_SP241_031319	3/13/2019	ppbv	65	11	1 U	1.1	1 U	10 U	1 U	5.2
OC_VGAC_INT_SP245_031319	3/13/2019	ppbv	1.2 U	12 U	1.2 U	2.5				
OC_VGAC_EFF_SP242_031319	3/13/2019	ppbv	1.3 U	13 U	1.3 U	2.7				

Table 3
Vapor Phase GAC Concentrations Demonstrating Substantive Compliance with SCAQMD Regulations
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2018 - September 2019

SCAQMD Chemical-Specific Effluent Limit ¹			268.6	13.4	60	4.6	20	31.2	20	13
Sample ID	Sample Date	Units	PCE	TCE	1,1-DCA	1,2-DCA	BZ	MeCl	VC	CFM
OC_VGAC_INF_SP241_041619	4/16/2019	ppbv	77	10	1.2 U	1.2	1.2 U	12 U	1.2 U	5.9
OC_VGAC_INT_SP245_041619	4/16/2019	ppbv	1.1 U	1.1 U	1.1 U	1.2	1.1 U	11 U	1.1 U	4.3
OC_VGAC_EFF_SP242_041619	4/16/2019	ppbv	1.2 U	12 U	1.2 U	4.3				
OC_VGAC_INF_SP241_051619	5/16/2019	ppbv	50	8.8	1.1 U	1.1 U	1.1 U	11 U	1.1 U	4.6
OC_VGAC_INT_SP245_051619	5/16/2019	ppbv	1.2 U	12 U	1.2 U	4.9				
OC_VGAC_EFF_SP242_051619	5/16/2019	ppbv	1.3 U	13 U	1.3 U	4				
OC_VGAC_INF_SP241_061319	6/13/2019	ppbv	70	11	1.2 U	1.2 U	1.2 U	12 U	1.2 U	5.8
OC_VGAC_INT_SP245_061319	6/13/2019	ppbv	1.2 U	1.2 U	1.2 U	1.6	17	12 U	1.2 U	6.6
OC_VGAC_EFF_SP242_061319	6/13/2019	ppbv	1.2 U	12 U	1.2 U	4.4				
OC_VGAC_INF_SP241_080219	8/2/2019	ppbv	82	11	1.3 U	1.3 U	1.3 U	13 U	1.3 U	5.3
OC_VGAC_INT_SP245_080219	8/2/2019	ppbv	1.2 U	1.2 U	1.2 U	1.4	1.2 U	12 U	1.2 U	5.8
OC_VGAC_EFF_SP242_080219	8/2/2019	ppbv	1.2 U	12 U	1.2 U	4.1				
OC_VGAC_INF_SP241_090519	9/5/2019	ppbv	66	10	1.2 U	1.2 U	1.2 U	12 U	1.2 U	5.4
OC_VGAC_INT_SP245_090519	9/5/2019	ppbv	1.2 U	1.2 U	1.2 U	2.1	1.2 U	12 U	1.2 U	8
OC_VGAC_EFF_SP242_090519	9/5/2019	ppbv	1.3 U	13 U	1.3 U	4.5				
Compliance with Effluent Limits?			YES	YES	YES	YES	YES	YES	YES	YES

1. SCAQMD effluent limits are in parts per billion volume (ppbv)

2. Bold text indicates vapor effluent results from the VGAC effluent required to meet SCAQMD HRA chemical specific limits shown in the table.

INF = Vapor phase GAC influent. VOC-laden vapor sample collected at the influent to the lead vapor GAC unit.

INT = Vapor phase GAC intermediate. Partially treated vapor sample collected between the lead and lag vapor GAC units.

EFF = Vapor phase GAC effluent. Fully treated vapor sample collected at the effluent from lag (polishing) vapor GAC unit.

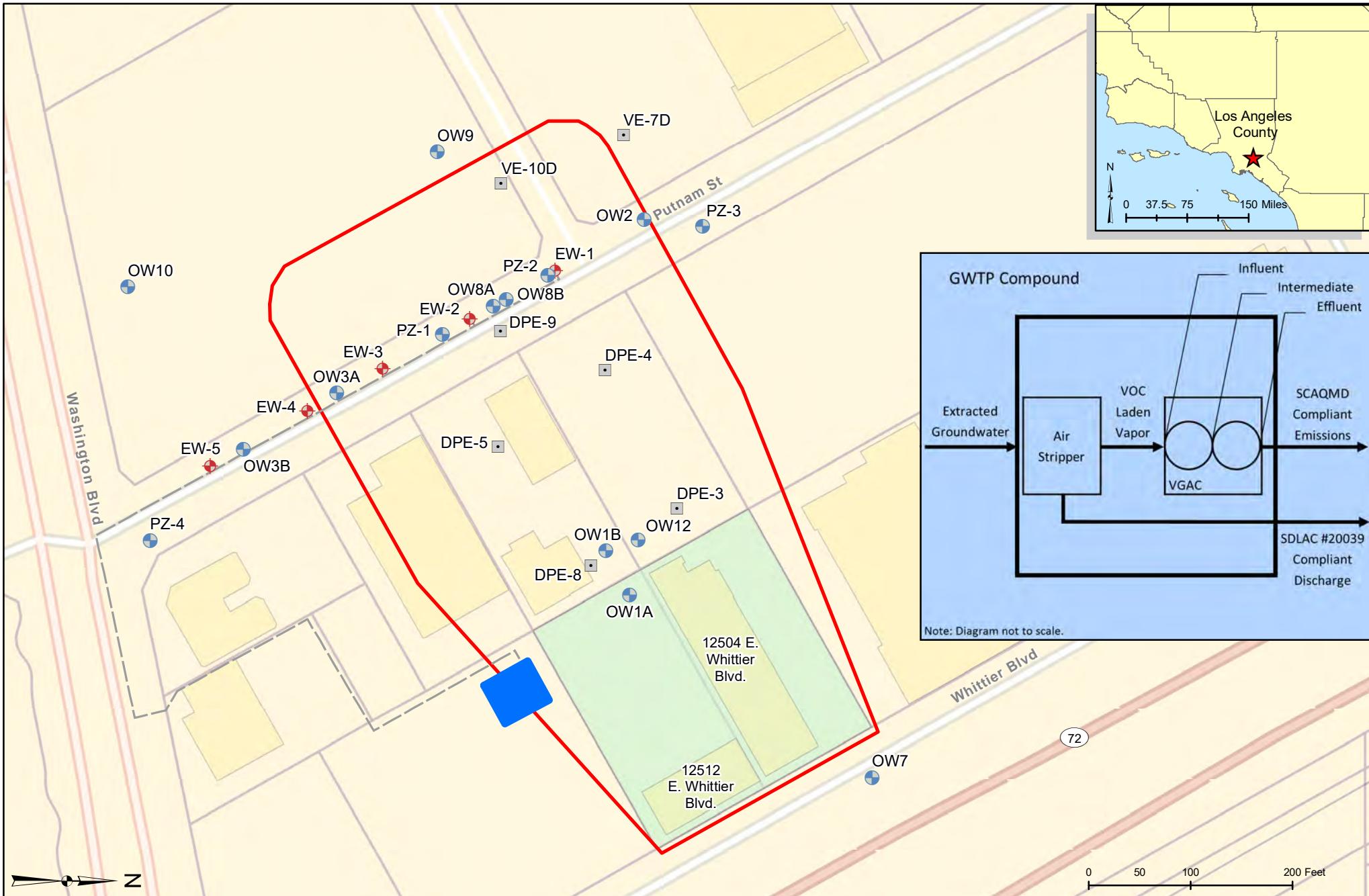
VGAC = vapor phase granular activated carbon; GAC = granular activated carbon

SCAQMD HRA Limit = South Coast Air Quality Management District Health Risk Assessment permitted concentration limit in ppbv

U = not detected above reporting limit listed

PCE = Tetrachloroethene; TCE = Trichloroethene; 1,1-DCA = 1,1-Dichloroethane; 1,2-DCA = 1,2-Dichloroethane; BZ = Benzene; MeCl = Methylene chloride; VC = Vinyl chloride; CFM = Chloroform

FIGURES



- ◆ GCR Extraction Well
 - Observation Well / Piezometer
 - OU-1 On-Site Soil Remedy
 - Dual Phase Extraction Well
 - ~~~~~ GCR Conveyance Piping
- Only piezometric data are collected from PZ-3 for GCR performance monitoring.

- GWTP Compound Location
- Former Omega Chemical Property Boundary
- OU-1 Boundary

ddms
de maximis, inc.

Reviewed By: KRK
Drawn By: LEM
Date: 11/12/2019

Figure 1
OU-1 Location Map
OU-1 Groundwater Containment Remedy,
Omega Chemical Superfund Site
12504/12512 East Whittier Boulevard
Whittier, California

Figure 2
Cumulative Gallons Treated and Mass Removed
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Third Quarter 2019

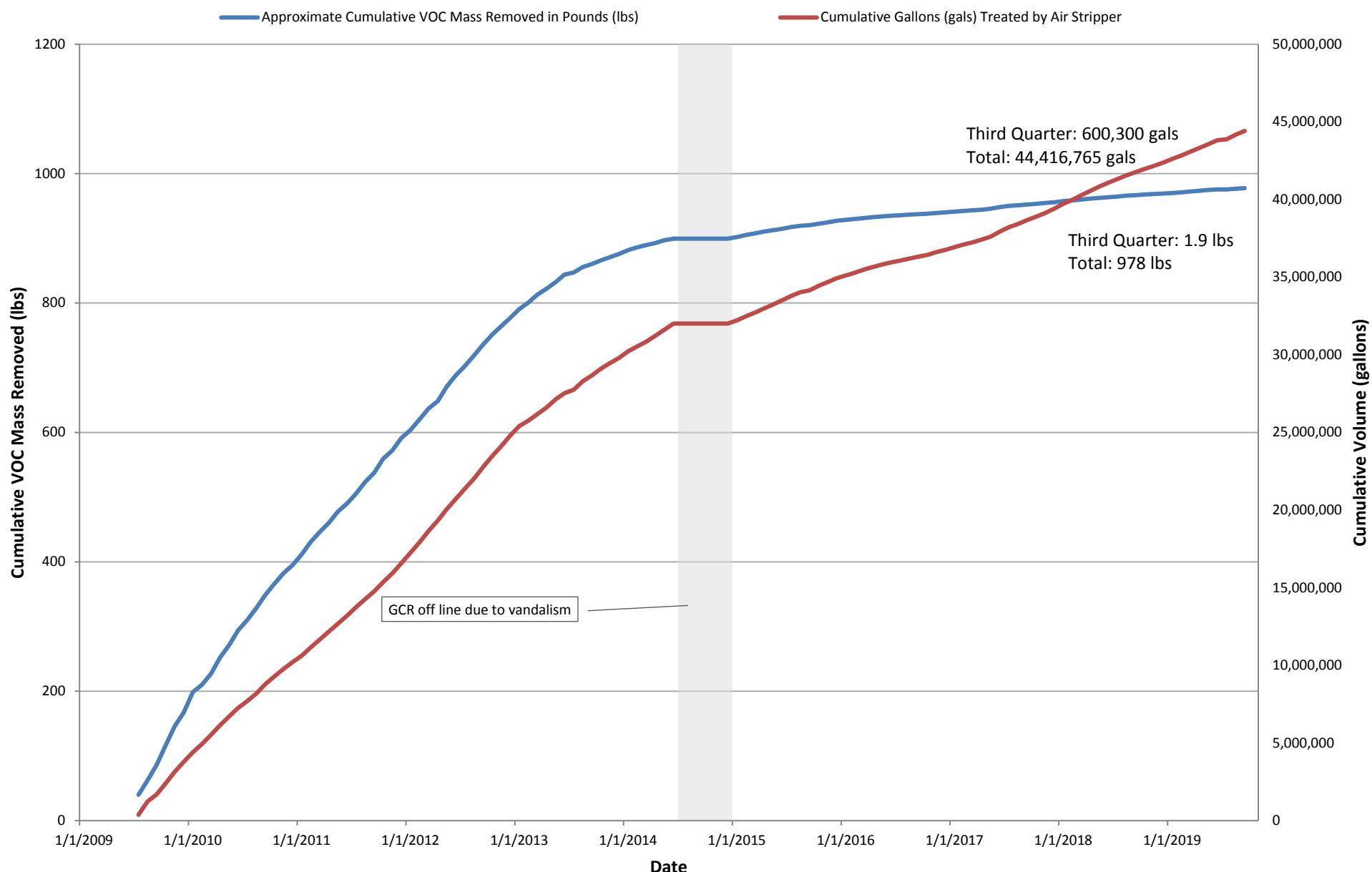
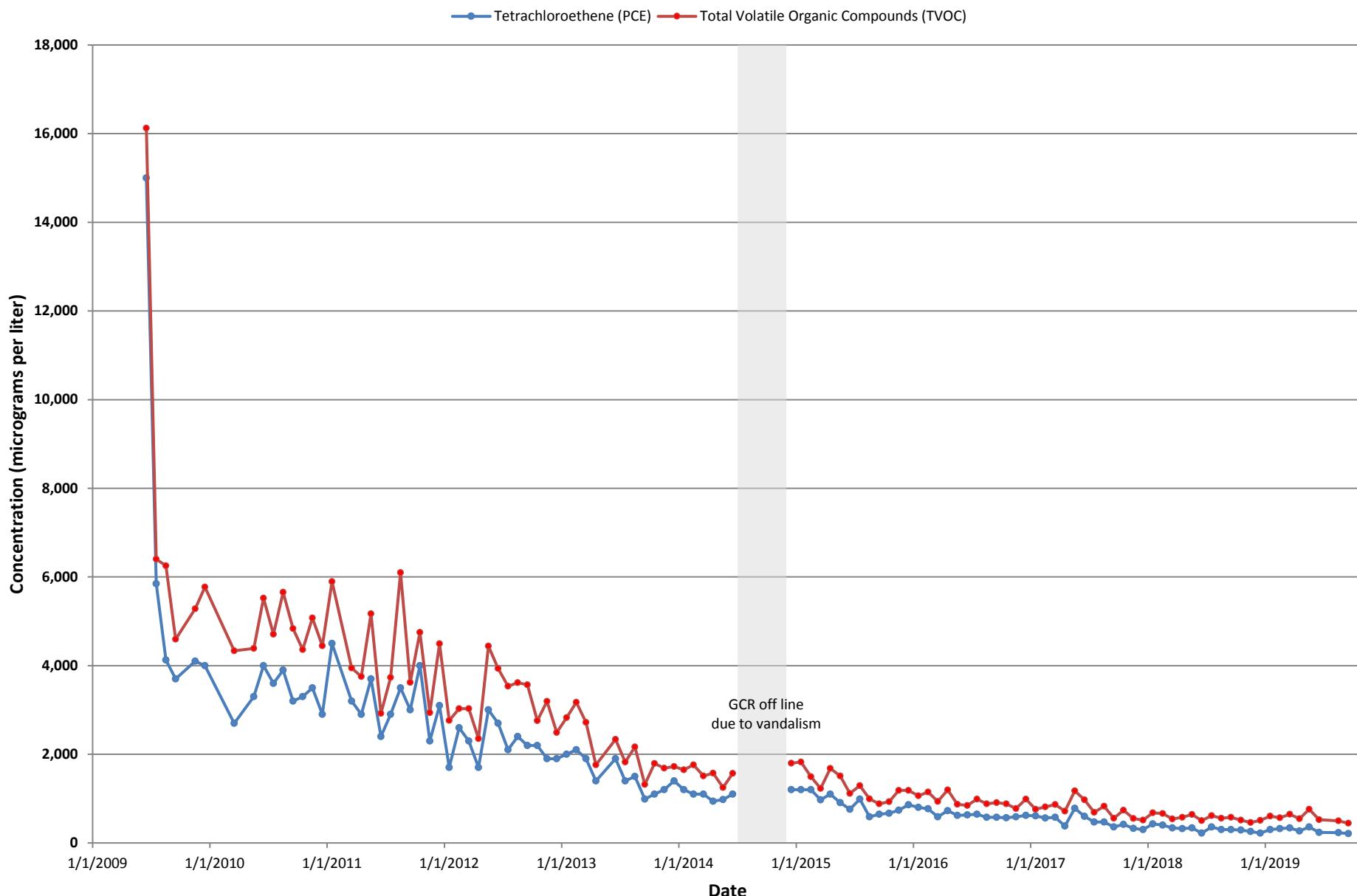


Figure 3
GCR Air Stripper Influent Concentrations
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Third Quarter 2019



ATTACHMENT A

Operational Data Summaries

Attachment A, Table A-1
Hydraulic Containment Extraction Well Operational Summary
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2018 - September 2019

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate ¹ (gpm)	Average Flow Rate ² (gpm)	Mass Removed (lbs)
EW-1	October 2018	0	0	0	0	
	November 2018	0	0	0	0	
	December 2018	0	0	0	0	
	January 2019	0.02	0.33	0.27	0.00001	
	February 2019	0.04	1.12	0.47	0.00003	
	March 2019	0	0	0	0	
	April 2019	0.01	0.33	0.56	0.00001	
	May 2019	0	0	0	0	
	June 2019	0	0	0	0	
	July 2019	0	0	0	0	
	August 2019	0.03	0.93	0.51	0.00002	
	September 2019	0	0	0	0	
Annual		0.10	2.71	0.15	0.00001	0.000003
EW-2	October 2018	0	0	0	0	
	November 2018	0	0	0	0	
	December 2018	0	0	0	0	
	January 2019	0	0	0	0	
	February 2019	0 ³	0	0	0	
	March 2019	0	0	0	0	
	April 2019	0	0	0	0	
	May 2019	0	0	0	0	
	June 2019	0	0	0	0	
	July 2019	0	0	0	0	
	August 2019	0 ³	0	0	0	
	September 2019	0	0	0	0	
Annual		0	0	0	0	NA

Attachment A, Table A-1
Hydraulic Containment Extraction Well Operational Summary
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2018 - September 2019

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate ¹ (gpm)	Average Flow Rate ² (gpm)	Mass Removed (lbs)
EW-3	October 2018	0.27	25.9	1.60	0.001	
	November 2018	0.06	3.34	0.93	0.0001	
	December 2018	5.88	568	1.61	0.01	
	January 2019	1.05	123	1.95	0.003	
	February 2019	5.17	523	1.69	0.01	
	March 2019	0.14	14.4	1.71	0.0003	
	April 2019	0.35	36.8	1.75	0.001	
	May 2019	9.05	1,115	2.05	0.02	
	June 2019	54.9	4,728	1.43	0.11	
	July 2020	13.0	1,012	1.30	0.02	
	August 2019	23.9	1,905	1.33	0.04	
	September 2019	0.32	38.2	1.99	0.001	
	Annual	114	10,093	1.61	0.02	0.001
EW-4	October 2018	3.81	1,145	5.01	0.03	
	November 2018	2.89	972	5.61	0.02	
	December 2018	5.42	969	2.98	0.02	
	January 2019	5.01	824	2.74	0.02	
	February 2019	5.96	836	2.34	0.02	
	March 2019	12.2	880	1.20	0.02	
	April 2019	169	801	0.08	0.02	
	May 2019	33.0	3,269	1.65	0.07	
	June 2019	16.2	6,481	6.67	0.15	
	July 2019	2.51	959	6.37	0.02	
	August 2019	5.83	2,406	6.88	0.05	
	September 2019	3.81	1,503	6.58	0.03	
	Annual	266	21,046	4.01	0.04	0.002

Attachment A, Table A-1
Hydraulic Containment Extraction Well Operational Summary
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
October 2018 - September 2019

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate ¹ (gpm)	Average Flow Rate ² (gpm)	Mass Removed (lbs)
EW-5	October 2018	10.7	3,121	4.86	0.07	
	November 2018	9.08	2,565	4.71	0.06	
	December 2018	11.3	2,914	4.30	0.07	
	January 2019	9.73	2,770	4.74	0.06	
	February 2019	31.1	2,394	1.28	0.06	
	March 2019	11.9	3,358	4.69	0.08	
	April 2019	14.9	4,255	4.75	0.10	
	May 2019	23.3	6,803	4.86	0.15	
	June 2019	33.6	9,192	4.56	0.21	
	July 2019	15.8	1,101	1.17	0.02	
	August 2019	123	5,434	0.73	0.12	
	September 2019	158	4,700	0.50	0.11	
	Annual	453	48,605	3.43	0.09	0.01

Notes:

1. Operational flow rate calculated from total gallons processed in the month and hours the pump actually operated in the month.
2. Average flow rate is calculated from total gallons processed in the month and total hours in the month, regardless of pump uptime.
3. Hour meter indicated the pump motor experienced short and intermittent periods of being energized, but the pump itself did not discharge.

All extraction wells operate on/off based on water levels measured by pressure transducers installed in each well.

NA = no analytical data available, no mass calculation performed

hrs = hours

gal = gallons

gpm = gallons per minute

Attachment A, Table A-2

Vapor Phase GAC Operational Data Demonstrating Substantive Compliance with SCAQMD Regulations
October 2018 - September 2019

SCAQMD Limit		1000	145			3.6		
HRA Changeout Criteria					12 ³		90 ³	
Date	Influent Vapor Relative Humidity (%)	Influent Vapor Flow Rate (SCFM)	Influent Vapor Temperature (°F)	Influent PID Measurement (ppmv)	Intermediate PID Measurement (ppmv)	Effluent PID Measurement (ppmv)	Lead VGAC Efficiency ¹ (%)	Overall VGAC Efficiency ² (%)
10/3/2018	15.4	688	105.2	0.943	0.419	0.000	56	100
10/12/2018	15.6	695	99.7	0.973	0.000	0.000	100	100
10/17/2018*	15.6	707	101.0	2.052	0.855	0.312	58	85
10/24/2018	15.5	675	100.5	0.484	0.103	0.000	79	100
10/30/2018	15.7	681	100.6	0.713	0.136	0.000	81	100
11/9/2018	15.7	666	97.4	0.824	0.000	0.582	100	29
11/14/2018	15.6	674	96.2	0.176	0.000	0.003	100	98
11/21/2018	15.7	700	96.6	0.532	0.012	0.000	98	100
11/27/2018	15.7	693	100.0	1.068	0.178	0.123	83	88
12/5/2018	15.6	680	96.1	0.672	0.330	0.055	51	92
12/11/2018	15.8	689	95.5	0.455	0.000	0.000	100	100
12/18/2018	15.8	699	96.5	0.204	0.000	0.000	100	100
12/26/2018	15.7	681	95.4	0.367	0.000	0.003	100	99
1/3/2019	15.5	685	92.9	0.814	0.298	0.000	63	100
1/9/2019	15.6	685	96.4	0.000	0.000	0.000	100	100
1/16/2019	15.5	684	94.3	0.331	0.000	0.004	100	99
1/24/2019	15.7	676	95.7	0.000	0.000	0.110	100	100
1/30/2019	15.8	672	95.3	0.302	0.067	0.050	78	83

Attachment A, Table A-2
Vapor Phase GAC Operational Data Demonstrating Substantive Compliance with SCAQMD Regulations
October 2018 - September 2019

SCAQMD Limit		1000	145			3.6		
HRA Changeout Criteria					12 ³		90 ³	
Date	Influent Vapor Relative Humidity (%)	Influent Vapor Flow Rate (SCFM)	Influent Vapor Temperature (°F)	Influent PID Measurement (ppmv)	Intermediate PID Measurement (ppmv)	Effluent PID Measurement (ppmv)	Lead VGAC Efficiency ¹ (%)	Overall VGAC Efficiency ² (%)
2/6/2019	15.8	663	89.3	0.323	0.021	0.000	93	100
2/15/2019	15.7	686	93.8	0.350	0.106	0.019	70	95
2/20/2019	15.7	678	92.1	0.409	0.000	0.000	100	100
2/27/2019	15.8	684	95.9	1.039	0.948	0.286	9	72
3/6/2019	15.6	678	92.7	0.675	0.199	0.224	71	67
3/13/2019	16.0	686	92.5	0.522	0.360	0.097	31	81
3/22/2019	16.0	676	93.5	0.957	0.115	0.085	88	91
3/27/2019	16.1	674	96.6	0.943	0.985	0.285	0	70
4/4/2019	16.2	682	98.6	1.078	0.877	0.414	19	62
4/11/2019	16.1	678	100.6	3.091	1.247	1.123	60	64
4/16/2019	16.2	673	97.9	0.945	0.041	0.000	96	100
4/24/2019	16.1	701	98.9	0.380	0.357	0.061	6	84
5/2/2019	16.2	692	99.3	0.000	0.000	0.000	100	100
5/7/2019	16.4	696	99.7	0.551	0.150	0.000	73	100
5/16/2019	16.3	696	96.7	0.770	0.000	0.000	100	100
5/23/2019	16.3	687	98.4	0.637	0.030	0.005	95	99
5/30/2019	16.2	686	99.0	0.528	0.136	0.049	74	91

Attachment A, Table A-2
Vapor Phase GAC Operational Data Demonstrating Substantive Compliance with SCAQMD Regulations
October 2018 - September 2019

SCAQMD Limit		1000	145			3.6		
HRA Changeout Criteria					12 ³		90 ³	
Date	Influent Vapor Relative Humidity (%)	Influent Vapor Flow Rate (SCFM)	Influent Vapor Temperature (°F)	Influent PID Measurement (ppmv)	Intermediate PID Measurement (ppmv)	Effluent PID Measurement (ppmv)	Lead VGAC Efficiency ¹ (%)	Overall VGAC Efficiency ² (%)
6/6/2019	16.3	685	101.8	0.510	0.267	0.038	48	93
6/13/2019	16.2	699	104.0	1.042	0.371	0.350	64	66
6/19/2019	16.6	694	103.5	0.450	0.186	0.096	59	79
6/26/2019	16.4	699	101.2	0.230	0.000	0.080	100	65
8/2/2019	18.8	692	104.3	1.054	0.977	0.149	7	86
8/7/2019	19.2	692	103.4	0.214	0.000	0.000	100	100
8/13/2019	19.5	676	103.3	0.710	0.000	0.070	100	90
8/23/2019	19.4	702	104.5	1.081	0.476	0.383	56	65
8/29/2019	19.3	694	111.3	1.851	1.279	0.560	31	70
9/5/2019	18.9	697	114.9	1.300	0.702	0.434	46	67
9/13/2019	18.9	708	105.5	0.000	0.000	0.000	100	100
9/18/2019	19.0	705	108.1	0.453	0.402	0.092	11	80
9/26/2019	18.9	707	106.1	0.564	0.235	0.176	58	69
Annual	16.5	687	99.2	0.699	0.268	0.132	62	81
Compliance with SCAQMD Limits?		YES	YES			YES		
Carbon changeout required this year?					NO		NO	

Notes:

°F = degrees Fahrenheit

SCFM = Standard Cubic Feet per Minute

PID = photoionization detector

VGAC = vapor phase granular activated carbon

GAC = granular activated carbon

ppmv = parts per million by volume as hexane

SCAQMD HRA = South Coast Air Quality Management District Health Risk Assessment

*PID did not calibrate correctly on 10/17/2018. Tedlar bag samples were collected on 10/17/2018 and measured on 10/24/2018 with calibrated PID.

1. Lead VGAC efficiency is calculated by the PID readings between the influent and intermediate.

2. Overall VGAC efficiency is calculated by the PID readings between the influent and effluent.

3. These limits by the SCAQMD Health Risk Assessment are for determining when a carbon changeout is required. **BOTH** limits for intermediate PID concentration and the lead VGAC efficiency must be exceeded during the same sampling event for the changeout requirement to take effect.

Kyle King

From: Reed, Alesandra F. <reedaf@cdmsmith.com>
Sent: Friday, November 01, 2019 4:36 PM
To: Kyle King; Laura Millan
Cc: Bamer, Jeffrey
Subject: Omega GWCS - August GAC Performance Assessment
Attachments: Omega GWCS GAC Assessment_Aug 2019.xlsx

** WARNING EXTERNAL SENDER **

Team,

We evaluated the performance of the GAC used by the GWCS for the month of August 2019, relative to the conditions listed in the Health Risk Assessment (HRA) (CDM Smith 2015). These conditions must be met to remain in substantive compliance with SCAQMD requirements.

During the month of August, the GWCS system met the conditions presented in the HRA and is therefore substantively compliant:

- None of the toxic air contaminants listed in Condition #14 of the HRA were detected in the effluent above their respective effluent limit (see table below).
- The GWCS did not meet the two criteria for replacement of the lead GAC vessel (listed under Condition #12 of the HRA), and therefore no GAC replacement was required.
- No other carcinogenic air contaminants beyond those listed in Condition #14 of the HRA were detected in effluent above 10 ppbv, and therefore per Condition #16, no toxic risk assessment was required.

We also evaluated all the analytical and PID data and, based on our professional judgement, we do not recommend a voluntary changeout of the lead vessel GAC at this time.

GWCS GAC Assessment - Based on Samples Collected August 2, 2019					
Parameter	Concentration (ppbv)				Below 2015 HRA Limit?
	Influent	Midpoint	Effluent	HRA Effluent Limit	
1,1,1-Trichloroethane (TCA)	ND	ND	ND	3	Yes
1,1-Dichloroethane	ND	ND	ND	18	Yes
1,1-Dichloroethene	20	21	19	140	Yes
1,2-Dichloroethane	ND	1.4	ND	12	Yes
Benzene	ND	ND	ND	12	Yes
Carbon disulfide	ND	ND	ND	690	Yes
Chloroform	5.3	5.8	4.1	95	Yes
Freon 11	6.7	6.3	6.2	4200	Yes
Freon 113	26	26	23	510	Yes
Freon 12	ND	ND	ND	249	Yes
Isopropyl Alcohol (Isopropanol)	ND	ND	ND	29	Yes
o-Xylene	ND	ND	ND	3	Yes
Methyl ethyl ketone	ND	ND	ND	24	Yes

Methylene chloride	ND	ND	ND	6900	Yes
Tetrachloroethene (PCE)	82	ND	ND	28	Yes
TNMOC ref. to Heptane (MW=100)	310	200	200	4177	Yes
Toluene	ND	ND	ND	42	Yes
Trichloroethene (TCE)	11	ND	ND	12	Yes
Vinyl chloride	ND	ND	ND	230	Yes

Please let us know if you have any questions or wish to discuss these data further.

Thanks!

Alesandra Reed, PE

Environmental Engineer

CDM Smith

555 17th Street, Suite 500, Denver, CO 80202

(cell) 352.222.2583, (office) 303.383.2475



Kyle King

From: Reed, Alesandra F. <reedaf@cdmsmith.com>
Sent: Wednesday, November 06, 2019 5:51 PM
To: Kyle King; Laura Millan
Cc: Bamer, Jeffrey
Subject: Omega GWCS - September GAC Performance Assessment
Attachments: Omega GWCS GAC Assessment_Sept 2019.xlsx

** WARNING EXTERNAL SENDER **

Team,

We evaluated the performance of the GAC used by the GWCS GAC system for the month of September 2019, relative to the conditions listed in the Health Risk Assessment (HRA) (CDM Smith 2015). These conditions must be met to remain in substantive compliance with SCAQMD requirements.

During the month of September, the GWCS GAC system met the conditions presented in the HRA and is therefore substantively compliant:

- None of the toxic air contaminants listed in Condition #14 of the HRA were detected in the effluent above their respective effluent limit.
- The GWCS GAC system met the two criteria for replacement of the lead GAC vessel (listed under Condition #12 of the HRA).
- No other carcinogenic air contaminants beyond those listed in Condition #14 of the HRA were detected in effluent above 10 ppbv, and therefore per Condition #16, no toxic risk assessment was required.

We also evaluated all the analytical and PID data and, based on our professional judgement, we do not recommend a voluntary changeout of the lead vessel GAC at this time.

Parameter	Concentration (ppbv)				Below 2015 HRA Limit?
	Influent	Midpoint	Effluent	HRA Effluent Limit	
1,1,1-Trichloroethane (TCA)	ND	ND	ND	3	Yes
1,1-Dichloroethane	ND	ND	ND	18	Yes
1,1-Dichloroethene	17	26	20	140	Yes
1,2-Dichloroethane	ND	2.1	ND	12	Yes
Benzene	ND	ND	ND	12	Yes
Carbon disulfide	ND	ND	ND	690	Yes
Chloroform	5.4	8	4.5	95	Yes
Freon 11	6	7.4	5.7	4200	Yes
Freon 113	25	33	19	510	Yes
Freon 12	ND	ND	ND	249	Yes
Isopropyl Alcohol (Isopropanol)	ND	ND	ND	29	Yes
o-Xylene	ND	ND	ND	3	Yes
Methyl ethyl ketone	ND	ND	ND	24	Yes

Methylene chloride	ND	ND	ND	6900	Yes
Tetrachloroethene (PCE)	66	ND	ND	28	Yes
TNMOC ref. to Heptane (MW=100)	380	310	310	4177	Yes
Toluene	ND	ND	ND	42	Yes
Trichloroethene (TCE)	10	ND	ND	12	Yes
Vinyl chloride	ND	ND	ND	230	Yes

Please let us know if you have any questions or wish to discuss these data further.

Thanks!
Alesandra

Alesandra Reed, PE
 Environmental Engineer
 CDM Smith
 555 17th Street, Suite 500, Denver, CO 80202
 (cell) 352.222.2583, (office) 303.383.2475



ATTACHMENT B

Other Data Collected This Quarter



OU-1 On-Site Soil Remedy
 Dual Phase Extraction Well
 Observation Well/Piezometer

Former Omega Chemical
 Property Boundary
 OU-1 Boundary



Reviewed By: LEM
 Drawn By: KM
 Date: 10/8/2019

Attachment B, Figure B-1
Other Groundwater Data Locations
Omega Chemical Superfund Site

Attachment B, Table B-1
Other Groundwater Elevation Data Collected This Quarter
Omega Chemical Superfund Site
Third Quarter 2019

Well No.	Top of Casing Elevation (feet MSL)	Screen Interval (feet MSL)	Date	Depth To Water (feet btoc)	Groundwater Elevation (feet MSL)
PZ-9	197.97	108.49 - 128.49	8/16/2019	84.41	113.56
OW11	200.06	100.52 - 120.52	8/16/2019	87.11	112.95
OW13B	210.89	71.37 - 81.37	8/19/2019	98.22	112.67
DPE-3	206.76	109.32 - 169.32	8/15/2019	91.97	114.79
DPE-4	202.97	105.50 - 165.50	8/15/2019	91.87	111.10
DPE-5	201.77	104.36 - 164.36	8/15/2019	92.02	109.75
DPE-8	204.87	107.46 - 167.46	8/15/2019	90.84	114.03
DPE-9	199.06	101.59 - 161.59	8/15/2019	92.30	106.76
VE-7D	200.11	102.03 - 162.03	8/15/2019	90.52	109.59
VE-10D	198.8	100.66 - 160.66	8/15/2019	92.77	106.03

Notes:

Elevation data per California Coordinate System NADV88

btoc = below top of casing

Dry = No water detected, water detected below the screen interval, or water detected at or near total depth of well

MSL = mean sea level

Attachment B, Table B-2
Other Groundwater Analytical Data Collected This Quarter
Omega Chemical Superfund Site
Third Quarter 2019

Well ID / Screen Interval ¹	Sample Date	Sample Type	PCE	TCE	1,4DIOX	1,1,1-TCA	1,1-DCE	1,2-DCA	Freon 113	Freon 11	Freon 12
PZ-3 (69.8 - 89.8)	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
PZ-9 (70 - 90)	8/20/2019	ORIG	230	19	240 J-	1.0 U	31	7.8	45	14	1.0 UJ
OW11 (80 - 100)	8/16/2019	ORIG	160	37 J-	0.53 UJ	1.0 U	27 J	1.0 UJ	30 J	8.6 J+	1.0 UJ
OW13B (130 - 140)	8/19/2019	ORIG	21	1.0 U	0.30 J-	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 UJ
	8/19/2019	DUP	20	1.0 U	0.14 J-	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 UJ
DPE-3 (40 - 100)	8/15/2019	ORIG	270	38	9.4 J-	6.8	19 J	4.1	290 J	20 J+	1.0 U
DPE-4 (40 - 100)	8/15/2019	ORIG	400	38 J-	21 J-	1.7	18 J	2.0 J-	360 J	9.7 J+	1.0 UJ
DPE-5 (40 - 100)	8/15/2019	ORIG	72	9.1	4.1 J-	1.0 U	32 J	0.46 J	11 J	8.0 J+	1.0 U
DPE-8 (40 - 100)	8/15/2019	ORIG	13	3.2	5.5 J-	1.0 U	0.48 J	0.25 J	2.3 J	1.7 J+	1.0 U
DPE-9 (40 - 100)	8/15/2019	ORIG	77	7.5	38 J-	1.0 U	11 J	2.2	16 J	6.4 J+	1.0 U
VE-7D (40 - 100)	8/15/2019	ORIG	56	30 J-	0.10 J,N	1.0 U	15 J	1.0 UJ	16 J	5.4 J+	1.0 UJ
VE-10D (40 - 100)	8/15/2019	ORIG	520	58	28 J-	1.0 U	66 J	5.2	150 J	43 J+	1.0 U

Notes:

1. The screen interval units are feet below top of casing.

All results are in micrograms per liter (ug/L)

ORIG = primary sample

DUP = duplicate sample

PCE = Tetrachloroethene; TCE = Trichloroethene; TCA = Trichloroethane; DCE = Dichloroethene;

Freon 113 = 1,1,2-Trichloro-1,2,2-trifluoroethane; Freon 11 = Trichlorofluoromethane;

Freon 12 = Dichlorodifluoromethane; DCA = Dichloroethane; 1,4DIOX = 1,4-dioxane

Dry = No water detected, water detected below the screen interval, or insufficient water to sample

U = not detected above reporting limit listed

UJ = analyte was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

J,N = quantitatively estimated and presumptively present

J = results are qualified as estimated

J- = result is an estimated quantity, but the result may be biased low

J+ - result is an estimated quantity, but the result may be biased high. See data validation report in Attachment C.

Attachment B, Table B-3
Other Groundwater Pumping Data Collected This Quarter
Omega Chemical Superfund Site
Third Quarter 2019

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate ¹ (gpm)	Average Flow Rate ² (gpm)	Mass Removed (lbs)
DPE-3	July 2019	45.8	9,182	3.34	0.21	
	August 2019	155	34,971	3.76	0.78	
	September 2019	111	30,500	4.58	0.71	
	3rd Quarter 2019	312	74,653	3.89	0.57	0.37
DPE-4	July 2019	0 ³	0	0	0	
	August 2019	180	16,001	1.48	0.36	
	September 2019	129	12,508	1.61	0.29	
	3rd Quarter 2019	309	28,508	1.03	0.22	0.18
DPE-5	July 2019	54.4	6,755	2.07	0.15	
	August 2019	204	25,305	2.07	0.57	
	September 2019	159	21,197	2.23	0.49	
	3rd Quarter 2019	417	53,257	2.12	0.40	0.05
DPE-8	July 2019	53.1	4,313	1.35	0.10	
	May 2019	216	17,794	1.37	0.40	
	June 2019	176	16,248	1.54	0.38	
	3rd Quarter 2019	445	38,355	1.42	0.29	0.01
DPE-9	July 2019	88.6	23,476	4.42	0.53	
	August 2019	340	80,085	3.93	1.79	
	September 2019	300	70,475	3.92	1.63	
	3rd Quarter 2019	728	174,036	4.09	1.32	0.21

Attachment B, Table B-3
Other Groundwater Pumping Data Collected This Quarter
Omega Chemical Superfund Site
Third Quarter 2019

		Pump Runtime (hrs)	Total Volume Extracted (gal)	Operational Flow Rate ¹ (gpm)	Average Flow Rate ² (gpm)	Mass Removed (lbs)
VE-7D	July 2019	33.7	5,377	2.66	0.12	
	August 2019	153	26,234	2.86	0.59	
	September 2019	120	26,416	3.68	0.61	
	3rd Quarter 2019	306	58,027	3.07	0.44	0.05
VE-10D	July 2019	85.9	16,225	3.15	0.36	
	August 2019	377	71,766	3.17	1.61	
	September 2019	283	66,414	3.92	1.54	
	3rd Quarter 2019	745	154,405	3.41	1.17	1.01

Notes:

1. Operational flow rate calculated from total gallons processed in the month and hours the pump actually operated in the month.
2. Average flow rate is calculated from total gallons processed in the month and total hours in the month, regardless of pump uptime.
3. Hour meter indicated the pump motor experienced short and intermittent periods of being energized, but the pump itself did not discharge.

All extraction wells operate on/off based on water levels measured by pressure transducers installed in each well.

hrs = hours

gal = gallons

gpm = gallons per minute

ATTACHMENT C

**Laboratory Analytical Results
and Data Verification Reports**

Data Quality Assessment
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Third Quarter 2019

Sampling Event	Sampling Rationale	Frequency of Analysis	Matrix	Lab WO#	Sampling Date	Field Quality Control Samples	Data Review Level	Review of Laboratory QC Samples	Data Usability
SDLAC Quarterly Sampling									
Q3	Quarterly sampling of the treatment plant effluent is required per Los Angeles County Sanitation District Industrial Waste Discharge Permit Number 20039.	Quarterly	Water	248179	8/16-17/2019	Equipment blanks are not needed as sampling equipment is not used. Trip blanks and field duplicates are not needed for this compliance sampling.	Stage 2A	MB, LCS/LCSD, MS/MSD, surrogates	Results for pH and dissolved sulfide are qualified as estimated (J,U). These parameters are 'analyze immediately' parameters. Field measurements should be used. Results for 1,4-dioxane in GRAB were qualified as estimated (J, U) due to an unacceptable surrogate recovery.
GWTS Process Sampling									
<i>SCAQMD Compliance</i>									
Q3	Sampling of the influent, intermediate, and effluent sample ports of the VPGAC vessels is required monthly for the SCAQMD permit.	Monthly	Air			Equipment blanks are not needed as sampling equipment is not used to collect the vapor samples. Trip blanks are not typically submitted with Summa canisters. Field duplicates are not needed for this compliance sampling.	Stage 2B	MB, LCS/LCSD, surrogates	No sample collected
				1908116	8/2/2019				The TNMOC value reported should not be used as TVOC as it is not the sum of the reported concentrations. No other qualification of sample results was warranted.
				1909153	9/5/2019				The TNMOC value reported should not be used as TVOC as it is not the sum of the reported concentrations. No other qualification of sample results was warranted.
<i>Treatment System Process Sampling</i>									
Q3	Analysis of the influent and effluent samples (before and after the air stripper) from the GWTS are needed to assess the performance of the treatment equipment.	Monthly (monthly for the first year of operation for the influent sample, frequency may change after 1st year); monthly for effluent sample.	Water			Equipment blanks are not needed as sampling equipment is not used to collect these samples from the sample ports. Field duplicates are not needed for this treatment assessment sampling. Trip blanks were analyzed with these samples and all trip blank results were nondetect with the exception of acetone in the June trip blank. Since acetone was not detected in any of the June samples, there is no impact from the acetone detected in the trip blank.	Stage 2A	MB, LCS/LCSD, MS/MSD, surrogates	No sample collected
				247214	8/2/2019				The result for 1,4-dioxane in OC_SP220B_EFF_080219 was qualified estimated (J-) due to unacceptable surrogate and LCS recoveries. The result may be biased low. Results for all compounds in OC_TB_080219 were qualified as estimated (UJ) due to significant headspace in the sample vial. Results for all compounds in all samples were qualified as estimated (J-, UJ) due to a high cooler temperature on receipt at the laboratory.
				249611	9/5/2019				The result for 1,4-dioxane in OC_SP220B_EFF_090519 was qualified estimated (J-) due to low surrogate and LCS recoveries. The result may be biased low. No other qualification of sample results was warranted.

8/13/2019
Ms. Jaime Dinello
DeMaximis, Inc
1340 Reynolds Ave, Suite 105

Irvine CA 92614

Project Name: Omega - GWCS Monbthly GAC
Project #:
Workorder #: 1908116

Dear Ms. Jaime Dinello

The following report includes the data for the above referenced project for sample(s) received on 8/6/2019 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner
Project Manager

A Eurofins Lancaster Laboratories Company

WORK ORDER #: 1908116

Work Order Summary

CLIENT:	Ms. Jaime Dinello DeMaximis, Inc 1340 Reynolds Ave, Suite 105 Irvine, CA 92614	BILL TO:	Mr. Tom Dorsey Omega Chemical Site Environmental Remediation Trust 1322 Scott St. Suite 104
PHONE:	949.679.9290	P.O. #	
FAX:	949.679.9078	PROJECT #	Omega - GWCS Monbthly GAC
DATE RECEIVED:	08/06/2019	CONTACT:	Kelly Buettner
DATE COMPLETED:	08/13/2019		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	OC_VGAC_EFF_SP242_080219	TO-15	5.1 "Hg	15.7 psi
02A	OC_VGAC_INT_SP245_080219	TO-15	5.3 "Hg	15.5 psi
03A	OC_VGAC_INF_SP241_080219	TO-15	5.1 "Hg	16.2 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY:



DATE: 08/13/19

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005-011, Effective date: 10/18/2018, Expiration date: 10/17/2019.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
EPA Method TO-15
DeMaximis, Inc
Workorder# 1908116**

Three 1 Liter Summa Canister samples were received on August 06, 2019. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The TNMOC concentration was calculated by taking the total area counts in the sample and quantitating the area based on the response factor of TNMOC ref. to Heptane (MW=100).

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



Air Toxics

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: OC_VGAC_EFF_SP242_080219**Lab ID#: 1908116-01A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	6.2	7.0	35
Freon 113	1.2	23	9.5	180
1,1-Dichloroethene	1.2	19	4.9	74
Chloroform	1.2	4.1	6.1	20
TNMOC ref. to Heptane (MW=100)	25	200	100	820

Client Sample ID: OC_VGAC_INT_SP245_080219**Lab ID#: 1908116-02A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	6.3	7.0	36
Freon 113	1.2	26	9.6	200
1,1-Dichloroethene	1.2	21	5.0	85
Chloroform	1.2	5.8	6.1	28
1,2-Dichloroethane	1.2	1.4	5.0	5.7
TNMOC ref. to Heptane (MW=100)	25	200	100	820

Client Sample ID: OC_VGAC_INF_SP241_080219**Lab ID#: 1908116-03A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.3	6.7	7.1	38
Freon 113	1.3	26	9.7	200
1,1-Dichloroethene	1.3	20	5.0	80
Chloroform	1.3	5.3	6.2	26
Trichloroethene	1.3	11	6.8	58
Tetrachloroethene	1.3	82	8.6	560
TNMOC ref. to Heptane (MW=100)	25	310	100	1300



Air Toxics

Client Sample ID: OC_VGAC_EFF_SP242_080219

Lab ID#: 1908116-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080806	Date of Collection:	8/2/19 10:55:00 AM	
Dil. Factor:	2.49	Date of Analysis:	8/8/19 02:52 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.2	Not Detected
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
Freon 11	1.2	6.2	7.0	35
Freon 113	1.2	23	9.5	180
1,1-Dichloroethene	1.2	19	4.9	74
2-Propanol	5.0	Not Detected	12	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
Methylene Chloride	12	Not Detected	43	Not Detected
Hexane	1.2	Not Detected	4.4	Not Detected
1,1-Dichloroethane	1.2	Not Detected	5.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
Chloroform	1.2	4.1	6.1	20
1,1,1-Trichloroethane	1.2	Not Detected	6.8	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.8	Not Detected
Benzene	1.2	Not Detected	4.0	Not Detected
1,2-Dichloroethane	1.2	Not Detected	5.0	Not Detected
Trichloroethene	1.2	Not Detected	6.7	Not Detected
1,4-Dioxane	5.0	Not Detected	18	Not Detected
Toluene	1.2	Not Detected	4.7	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.8	Not Detected
Tetrachloroethene	1.2	Not Detected	8.4	Not Detected
o-Xylene	1.2	Not Detected	5.4	Not Detected
TNMOC ref. to Heptane (MW=100)	25	200	100	820

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	85	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: OC_VGAC_INT_SP245_080219

Lab ID#: 1908116-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080807	Date of Collection:	8/2/19 10:56:00 AM	
Dil. Factor:	2.50	Date of Analysis:	8/8/19 03:18 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.2	Not Detected
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
Freon 11	1.2	6.3	7.0	36
Freon 113	1.2	26	9.6	200
1,1-Dichloroethene	1.2	21	5.0	85
2-Propanol	5.0	Not Detected	12	Not Detected
Carbon Disulfide	5.0	Not Detected	16	Not Detected
Methylene Chloride	12	Not Detected	43	Not Detected
Hexane	1.2	Not Detected	4.4	Not Detected
1,1-Dichloroethane	1.2	Not Detected	5.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.0	Not Detected	15	Not Detected
Chloroform	1.2	5.8	6.1	28
1,1,1-Trichloroethane	1.2	Not Detected	6.8	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.9	Not Detected
Benzene	1.2	Not Detected	4.0	Not Detected
1,2-Dichloroethane	1.2	1.4	5.0	5.7
Trichloroethene	1.2	Not Detected	6.7	Not Detected
1,4-Dioxane	5.0	Not Detected	18	Not Detected
Toluene	1.2	Not Detected	4.7	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.8	Not Detected
Tetrachloroethene	1.2	Not Detected	8.5	Not Detected
o-Xylene	1.2	Not Detected	5.4	Not Detected
TNMOC ref. to Heptane (MW=100)	25	200	100	820

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: OC_VGAC_INF_SP241_080219

Lab ID#: 1908116-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080808	Date of Collection:	8/2/19 10:56:00 AM	
Dil. Factor:	2.53	Date of Analysis:	8/8/19 03:45 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.2	Not Detected
Vinyl Chloride	1.3	Not Detected	3.2	Not Detected
Freon 11	1.3	6.7	7.1	38
Freon 113	1.3	26	9.7	200
1,1-Dichloroethene	1.3	20	5.0	80
2-Propanol	5.1	Not Detected	12	Not Detected
Carbon Disulfide	5.1	Not Detected	16	Not Detected
Methylene Chloride	13	Not Detected	44	Not Detected
Hexane	1.3	Not Detected	4.4	Not Detected
1,1-Dichloroethane	1.3	Not Detected	5.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.1	Not Detected	15	Not Detected
Chloroform	1.3	5.3	6.2	26
1,1,1-Trichloroethane	1.3	Not Detected	6.9	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.0	Not Detected
Benzene	1.3	Not Detected	4.0	Not Detected
1,2-Dichloroethane	1.3	Not Detected	5.1	Not Detected
Trichloroethene	1.3	11	6.8	58
1,4-Dioxane	5.1	Not Detected	18	Not Detected
Toluene	1.3	Not Detected	4.8	Not Detected
1,1,2-Trichloroethane	1.3	Not Detected	6.9	Not Detected
Tetrachloroethene	1.3	82	8.6	560
o-Xylene	1.3	Not Detected	5.5	Not Detected
TNMOC ref. to Heptane (MW=100)	25	310	100	1300

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	82	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1908116-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080805	Date of Collection:	NA	
Dil. Factor:	1.00	Date of Analysis:	8/8/19 11:38 AM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
TNMOC ref. to Heptane (MW=100)	10	Not Detected	41	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	84	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1908116-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080802	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/8/19 10:22 AM

Compound	%Recovery
Freon 12	83
Vinyl Chloride	84
Freon 11	83
Freon 113	89
1,1-Dichloroethene	88
2-Propanol	74
Carbon Disulfide	85
Methylene Chloride	84
Hexane	84
1,1-Dichloroethane	81
2-Butanone (Methyl Ethyl Ketone)	79
Chloroform	86
1,1,1-Trichloroethane	82
Carbon Tetrachloride	85
Benzene	89
1,2-Dichloroethane	80
Trichloroethene	90
1,4-Dioxane	82
Toluene	85
1,1,2-Trichloroethane	85
Tetrachloroethene	94
o-Xylene	80
TNMOC ref. to Heptane (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	86	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1908116-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080803	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/8/19 10:46 AM
Compound	%Recovery	Method	Limits
Freon 12	85	70-130	
Vinyl Chloride	87	70-130	
Freon 11	87	70-130	
Freon 113	90	70-130	
1,1-Dichloroethene	90	70-130	
2-Propanol	81	70-130	
Carbon Disulfide	75	70-130	
Methylene Chloride	83	70-130	
Hexane	86	70-130	
1,1-Dichloroethane	84	70-130	
2-Butanone (Methyl Ethyl Ketone)	82	70-130	
Chloroform	87	70-130	
1,1,1-Trichloroethane	83	70-130	
Carbon Tetrachloride	87	70-130	
Benzene	93	70-130	
1,2-Dichloroethane	84	70-130	
Trichloroethene	93	70-130	
1,4-Dioxane	86	70-130	
Toluene	90	70-130	
1,1,2-Trichloroethane	92	70-130	
Tetrachloroethene	100	70-130	
o-Xylene	86	70-130	
TNMOC ref. to Heptane (MW=100)	Not Spiked		

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method	Limits
Toluene-d8	100	70-130	
1,2-Dichloroethane-d4	82	70-130	
4-Bromofluorobenzene	105	70-130	



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1908116-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	a080804	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/8/19 11:11 AM
Compound	%Recovery	Method	Limits
Freon 12	87	70-130	
Vinyl Chloride	90	70-130	
Freon 11	88	70-130	
Freon 113	91	70-130	
1,1-Dichloroethene	93	70-130	
2-Propanol	83	70-130	
Carbon Disulfide	78	70-130	
Methylene Chloride	85	70-130	
Hexane	88	70-130	
1,1-Dichloroethane	85	70-130	
2-Butanone (Methyl Ethyl Ketone)	85	70-130	
Chloroform	89	70-130	
1,1,1-Trichloroethane	85	70-130	
Carbon Tetrachloride	89	70-130	
Benzene	92	70-130	
1,2-Dichloroethane	83	70-130	
Trichloroethene	93	70-130	
1,4-Dioxane	88	70-130	
Toluene	90	70-130	
1,1,2-Trichloroethane	91	70-130	
Tetrachloroethene	99	70-130	
o-Xylene	86	70-130	
TNMOC ref. to Heptane (MW=100)	Not Spiked		

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method	Limits
Toluene-d8	99	70-130	
1,2-Dichloroethane-d4	84	70-130	
4-Bromofluorobenzene	105	70-130	

Calscience

Environmental
Laboratories, Inc.7440 LINCOLN WAY
GARDEN GROVE, CA 92841-1427
TEL: (714) 895-5494, FAX: (714) 894-7501

1908116

AIR CHAIN OF CUSTODY RECORD

DATE: 08/02/19
PAGE: 1 OF 1

LABORATORY CLIENT: de maximis		CLIENT PROJECT NAME / NUMBER: Omega - GWCS Monthly GAC		P.O. NO.																																																																																																																																																																																																																								
ADDRESS: 1322 Scott St., Suite 104		PROJECT ADDRESS: 12520 Whittier Blvd		LAB CONTACT OR QUOTE NO.																																																																																																																																																																																																																								
CITY: San Diego		CITY: Whittier	STATE: CA	STATE: CA																																																																																																																																																																																																																								
TEL: (562) 756-8149	EMAIL: dmello@demaximis.com	ZIP: 92106	ZIP: 90602	LAB USE ONLY: <input type="checkbox"/> <input type="checkbox"/> - <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>																																																																																																																																																																																																																								
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9/17/2019
Ms. Jaime Dinello
DeMaximis, Inc
1340 Reynolds Ave, Suite 105

Irvine CA 92614

Project Name: Omega - GWCS Monthly GAC
Project #:
Workorder #: 1909153

Dear Ms. Jaime Dinello

The following report includes the data for the above referenced project for sample(s) received on 9/9/2019 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner
Project Manager

A Eurofins Lancaster Laboratories Company

WORK ORDER #: 1909153

Work Order Summary

CLIENT:	Ms. Jaime Dinello DeMaximis, Inc 1340 Reynolds Ave, Suite 105 Irvine, CA 92614	BILL TO:	Mr. Tom Dorsey Omega Chemical Site Environmental Remediation Trust 1322 Scott St. Suite 104
PHONE:	949.679.9290	P.O. #	
FAX:	949.679.9078	PROJECT #	Omega - GWCS Monthly GAC
DATE RECEIVED:	09/09/2019	CONTACT:	Kelly Buettner
DATE COMPLETED:	09/16/2019		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	OC_VGAC_EFF_SP242_090519	TO-15	5.3 "Hg	16.3 psi
02A	OC_VGAC_INT_SP245_090519	TO-15	4.3 "Hg	15.6 psi
03A	OC_VGAC_INF_SP241_090519	TO-15	4.5 "Hg	15.6 psi
04A	Lab Blank	TO-15	NA	NA
05A	CCV	TO-15	NA	NA
06A	LCS	TO-15	NA	NA
06AA	LCSD	TO-15	NA	NA

CERTIFIED BY:



DATE: 09/16/19

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP – CA009332019-11, VA NELAP - 460197, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005-011, Effective date: 10/18/2018, Expiration date: 10/17/2019.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
EPA Method TO-15
DeMaximis, Inc
Workorder# 1909153**

Three 1 Liter Summa Canister samples were received on September 09, 2019. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

The TNMOC concentration was calculated by taking the total area counts in the sample and quantitating the area based on the response factor of TNMOC ref. to Heptane (MW=100).

Definition of Data Qualifying Flags

Ten qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: OC_VGAC_EFF_SP242_090519

Lab ID#: 1909153-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.3	5.7	7.2	32
Freon 113	1.3	19	9.8	150
1,1-Dichloroethene	1.3	20	5.1	79
Chloroform	1.3	4.5	6.2	22
TNMOC ref. to Heptane (MW=100)	26	310	100	1300

Client Sample ID: OC_VGAC_INT_SP245_090519

Lab ID#: 1909153-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	7.4	6.8	42
Freon 113	1.2	33	9.2	260
1,1-Dichloroethene	1.2	26	4.8	100
Chloroform	1.2	8.0	5.9	39
1,2-Dichloroethane	1.2	2.1	4.9	8.6
TNMOC ref. to Heptane (MW=100)	24	310	98	1300

Client Sample ID: OC_VGAC_INF_SP241_090519

Lab ID#: 1909153-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	1.2	6.0	6.8	34
Freon 113	1.2	25	9.3	190
1,1-Dichloroethene	1.2	17	4.8	69
Chloroform	1.2	5.4	5.9	26
Trichloroethene	1.2	10	6.5	54
Tetrachloroethene	1.2	66	8.2	450
TNMOC ref. to Heptane (MW=100)	24	380	99	1600



Air Toxics

Client Sample ID: OC_VGAC_EFF_SP242_090519

Lab ID#: 1909153-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17191208	Date of Collection:	9/5/19 2:12:00 PM	
Dil. Factor:	2.56	Date of Analysis:	9/12/19 02:46 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.3	Not Detected	6.3	Not Detected
Vinyl Chloride	1.3	Not Detected	3.3	Not Detected
Freon 11	1.3	5.7	7.2	32
Freon 113	1.3	19	9.8	150
1,1-Dichloroethene	1.3	20	5.1	79
2-Propanol	5.1	Not Detected	12	Not Detected
Carbon Disulfide	5.1	Not Detected	16	Not Detected
Methylene Chloride	13	Not Detected	44	Not Detected
Hexane	1.3	Not Detected	4.5	Not Detected
1,1-Dichloroethane	1.3	Not Detected	5.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	5.1	Not Detected	15	Not Detected
Chloroform	1.3	4.5	6.2	22
1,1,1-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Carbon Tetrachloride	1.3	Not Detected	8.0	Not Detected
Benzene	1.3	Not Detected	4.1	Not Detected
1,2-Dichloroethane	1.3	Not Detected	5.2	Not Detected
Trichloroethene	1.3	Not Detected	6.9	Not Detected
1,4-Dioxane	5.1	Not Detected	18	Not Detected
Toluene	1.3	Not Detected	4.8	Not Detected
1,1,2-Trichloroethane	1.3	Not Detected	7.0	Not Detected
Tetrachloroethene	1.3	Not Detected	8.7	Not Detected
o-Xylene	1.3	Not Detected	5.6	Not Detected
TNMOC ref. to Heptane (MW=100)	26	310	100	1300

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	94	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: OC_VGAC_INT_SP245_090519

Lab ID#: 1909153-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17191209	Date of Collection:	9/5/19 2:14:00 PM	
Dil. Factor:	2.41	Date of Analysis:	9/12/19 03:15 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.0	Not Detected
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
Freon 11	1.2	7.4	6.8	42
Freon 113	1.2	33	9.2	260
1,1-Dichloroethene	1.2	26	4.8	100
2-Propanol	4.8	Not Detected	12	Not Detected
Carbon Disulfide	4.8	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	42	Not Detected
Hexane	1.2	Not Detected	4.2	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.8	Not Detected	14	Not Detected
Chloroform	1.2	8.0	5.9	39
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.6	Not Detected
Benzene	1.2	Not Detected	3.8	Not Detected
1,2-Dichloroethane	1.2	2.1	4.9	8.6
Trichloroethene	1.2	Not Detected	6.5	Not Detected
1,4-Dioxane	4.8	Not Detected	17	Not Detected
Toluene	1.2	Not Detected	4.5	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	Not Detected	8.2	Not Detected
o-Xylene	1.2	Not Detected	5.2	Not Detected
TNMOC ref. to Heptane (MW=100)	24	310	98	1300

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: OC_VGAC_INF_SP241_090519

Lab ID#: 1909153-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17191210	Date of Collection:	9/5/19 2:15:00 PM	
Dil. Factor:	2.42	Date of Analysis:	9/12/19 03:43 PM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	6.0	Not Detected
Vinyl Chloride	1.2	Not Detected	3.1	Not Detected
Freon 11	1.2	6.0	6.8	34
Freon 113	1.2	25	9.3	190
1,1-Dichloroethene	1.2	17	4.8	69
2-Propanol	4.8	Not Detected	12	Not Detected
Carbon Disulfide	4.8	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	42	Not Detected
Hexane	1.2	Not Detected	4.3	Not Detected
1,1-Dichloroethane	1.2	Not Detected	4.9	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.8	Not Detected	14	Not Detected
Chloroform	1.2	5.4	5.9	26
1,1,1-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.6	Not Detected
Benzene	1.2	Not Detected	3.9	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	10	6.5	54
1,4-Dioxane	4.8	Not Detected	17	Not Detected
Toluene	1.2	Not Detected	4.6	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.6	Not Detected
Tetrachloroethene	1.2	66	8.2	450
o-Xylene	1.2	Not Detected	5.2	Not Detected
TNMOC ref. to Heptane (MW=100)	24	380	99	1600

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1909153-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17091205	Date of Collection:	NA	
Dil. Factor:	1.00	Date of Analysis:	9/12/19 11:25 AM	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
TNMOC ref. to Heptane (MW=100)	10	Not Detected	41	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1909153-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17091202	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/12/19 09:52 AM

Compound	%Recovery
Freon 12	98
Vinyl Chloride	101
Freon 11	98
Freon 113	99
1,1-Dichloroethene	103
2-Propanol	100
Carbon Disulfide	100
Methylene Chloride	105
Hexane	99
1,1-Dichloroethane	101
2-Butanone (Methyl Ethyl Ketone)	104
Chloroform	100
1,1,1-Trichloroethane	96
Carbon Tetrachloride	98
Benzene	102
1,2-Dichloroethane	100
Trichloroethene	99
1,4-Dioxane	99
Toluene	97
1,1,2-Trichloroethane	98
Tetrachloroethene	99
o-Xylene	99
TNMOC ref. to Heptane (MW=100)	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1909153-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17091203	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/12/19 10:19 AM
Compound	%Recovery	Method	Limits
Freon 12	98	70-130	
Vinyl Chloride	106	70-130	
Freon 11	99	70-130	
Freon 113	96	70-130	
1,1-Dichloroethene	102	70-130	
2-Propanol	107	70-130	
Carbon Disulfide	103	70-130	
Methylene Chloride	103	70-130	
Hexane	101	70-130	
1,1-Dichloroethane	99	70-130	
2-Butanone (Methyl Ethyl Ketone)	110	70-130	
Chloroform	100	70-130	
1,1,1-Trichloroethane	96	70-130	
Carbon Tetrachloride	98	70-130	
Benzene	104	70-130	
1,2-Dichloroethane	100	70-130	
Trichloroethene	101	70-130	
1,4-Dioxane	107	70-130	
Toluene	98	70-130	
1,1,2-Trichloroethane	100	70-130	
Tetrachloroethene	101	70-130	
o-Xylene	100	70-130	
TNMOC ref. to Heptane (MW=100)	Not Spiked		

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method	Limits
Toluene-d8	100	70-130	
1,2-Dichloroethane-d4	96	70-130	
4-Bromofluorobenzene	97	70-130	



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1909153-06AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	17091204	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/12/19 10:46 AM
Compound	%Recovery	Method	Limits
Freon 12	98	70-130	
Vinyl Chloride	107	70-130	
Freon 11	99	70-130	
Freon 113	99	70-130	
1,1-Dichloroethene	102	70-130	
2-Propanol	108	70-130	
Carbon Disulfide	106	70-130	
Methylene Chloride	104	70-130	
Hexane	102	70-130	
1,1-Dichloroethane	100	70-130	
2-Butanone (Methyl Ethyl Ketone)	110	70-130	
Chloroform	101	70-130	
1,1,1-Trichloroethane	98	70-130	
Carbon Tetrachloride	99	70-130	
Benzene	104	70-130	
1,2-Dichloroethane	99	70-130	
Trichloroethene	102	70-130	
1,4-Dioxane	109	70-130	
Toluene	97	70-130	
1,1,2-Trichloroethane	104	70-130	
Tetrachloroethene	101	70-130	
o-Xylene	103	70-130	
TNMOC ref. to Heptane (MW=100)	Not Spiked		

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method	Limits
Toluene-d8	98	70-130	
1,2-Dichloroethane-d4	98	70-130	
4-Bromofluorobenzene	99	70-130	

Calscience

Calscience
Environmental
Laboratories, Inc.

7440 LINCOLN WAY
 GARDEN GROVE, CA 92841-1427
 TEL: (714) 895-5594 FAX: (714) 894-7501

PROJECT NUMBER: 1909153

DATE: 09/05/19

PAGE: 1 OF 1

LABORATORY CLIENT:		de maximis		CLIENT PROJECT NAME / NUMBER:		Omega - GWCS Monthly GAC		P.O. NO.:
ADDRESS:		1322 Scott St., Suite 104		PROJECT ADDRESS:		12520 Whittier Blvd.		LAB CONTACT OR QUOTE NO.:
CITY:				CITY:		Whittier		
San Diego		CA		STATE:		CA		ZIP:
TEL:		(562) 756-8449		EMAIL:		dinello@demaximis.com		ZIP:
TURNAROUND TIME:		<input type="checkbox"/> SAME DAY <input type="checkbox"/> 24 HR <input type="checkbox"/> 48 HR <input type="checkbox"/> 72 HR <input checked="" type="checkbox"/> 5 DAYS <input type="checkbox"/> 10 DAYS		PROJECT CONTACT:		Trent Henderson thendersen@iacobandhether.com		USB USE ONLY:
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)				SAMPLE(S) (NAME / SIGNATURE):		Khalid Arshad		REQUESTED ANALYSES
REDD								
SPECIAL INSTRUCTIONS:								

LAB USE ONLY	SAMPLE ID	FIELD ID / Point of Collection	Air Type		Sampling Equipment Info		Start Sampling Information		Stop Sampling Information			
			(1) Indoor (2) Outdoor (3) Vap.	(4) Canister 6L or 1L	Canister Controller (D4)	Flow Rate	Canister Controller (D4)	Date	Time (24hr clock)	Canister Pressure (mPa)	Date	Time (24hr clock)
1	OC_VGAC_EFF_SP242_090519	SP-EFF-GAC	(1) Vapor	3036	1L	854	9/5/2019	1407	-28	9/5/2019	1412	-5
2	OC_VGAC_INT_SP245_090519	SP-MID-GAC	(2) Vapor	128192	1L	820	9/5/2019	1409	-28	9/5/2019	1414	-5
3	OC_VGAC_INF_SP241_090519	SP-INF-GAC	(3) Vapor	1L3018	1L	299	9/5/2019	1410	-27	9/5/2019	1415	-5
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✓ Custody Seal intact?
 Y N None Temp AF

Reinforced by: (Signature)

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Received by: (Signature)

Received by: (Signature)

Received by: (Signature)

Date:

Date:

Date:

Time:

Time:

Time:



Environment Testing TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-247214-1

Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical - GWCS Monthly

For:

Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson

Danielle Roberts

Authorized for release by:
8/15/2019 12:40:01 PM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-247214-1	OC_SP220B_EFF_080219	Water	08/02/19 09:30	08/03/19 12:40	
440-247214-2	OC_SP210_INF_080219	Water	08/02/19 09:36	08/03/19 12:40	
440-247214-3	OC_TB_080219	Water	08/02/19 09:00	08/03/19 12:40	

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Case Narrative

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
SDG: Omega Chemical

Job ID: 440-247214-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-247214-1

Comments

No additional comments.

Receipt

The samples were received on 8/3/2019 12:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 14.7° C.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria: OC_SP220B_EFF_080219 (440-247214-1), OC_SP210_INF_080219 (440-247214-2) and OC_TB_080219 (440-247214-3). Received samples on melted ice. The temperature recorded was 14.3/14.7 IR 89 outside the required temperature criteria.

The following sample(s) was received with headspace in the sample container. This sample container was received with headspace. OC_TB_080219 (440-247214-3). Received two out of two voa vials TB with headspace more than 6 mm. No voa vial remain.

GC/MS VOA

Method(s) 8260B: The following volatile sample was analyzed with significant headspace in the sample container(s): OC_TB_080219 (440-247214-3). Significant headspace is defined as a bubble greater than 6 mm in diameter.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-561502 recovered above the upper control limit for 1,1-Dichloroethene (%D = 23.8) and Vinyl chloride (%D = 20.8). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: OC_SP210_INF_080219 (440-247214-2), OC_TB_080219 (440-247214-3) and (CCVIS 440-561502/2).

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 440-561502 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) precision was within acceptance limits.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with analytical batch 440-561502 were outside control limits: (440-247222-B-1 MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_080219

Lab Sample ID: 440-247214-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	22		0.49	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_SP210_INF_080219

Lab Sample ID: 440-247214-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	97		25	ug/L	5		8260B	Total/NA
Chloroform	13		5.0	ug/L	5		8260B	Total/NA
Tetrachloroethylene	230		5.0	ug/L	5		8260B	Total/NA
Trichloroethylene	26		5.0	ug/L	5		8260B	Total/NA
Trichlorofluoromethane	17		5.0	ug/L	5		8260B	Total/NA
1,1-Dichloroethylene - RA	31		5.0	ug/L	5		8260B	Total/NA

Client Sample ID: OC_TB_080219

Lab Sample ID: 440-247214-3

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Acetone	16		10	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_080219

Lab Sample ID: 440-247214-1

Matrix: Water

Date Collected: 08/02/19 09:30

Date Received: 08/03/19 12:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L		08/07/19 11:53		1
1,1,1-Trichloroethane	ND		1.0	ug/L		08/07/19 11:53		1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L		08/07/19 11:53		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L		08/07/19 11:53		1
1,1,2-Trichloroethane	ND		1.0	ug/L		08/07/19 11:53		1
1,1-Dichloroethane	ND		1.0	ug/L		08/07/19 11:53		1
1,1-Dichloroethene	ND		1.0	ug/L		08/07/19 11:53		1
1,1-Dichloropropene	ND		1.0	ug/L		08/07/19 11:53		1
1,2,3-Trichlorobenzene	ND		1.0	ug/L		08/07/19 11:53		1
1,2,3-Trichloropropane	ND		1.0	ug/L		08/07/19 11:53		1
1,2,4-Trichlorobenzene	ND		1.0	ug/L		08/07/19 11:53		1
1,2,4-Trimethylbenzene	ND		1.0	ug/L		08/07/19 11:53		1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L		08/07/19 11:53		1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		08/07/19 11:53		1
1,2-Dichlorobenzene	ND		1.0	ug/L		08/07/19 11:53		1
1,2-Dichloroethane	ND		1.0	ug/L		08/07/19 11:53		1
1,2-Dichloropropene	ND		1.0	ug/L		08/07/19 11:53		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		08/07/19 11:53		1
1,3-Dichlorobenzene	ND		1.0	ug/L		08/07/19 11:53		1
1,3-Dichloropropane	ND		1.0	ug/L		08/07/19 11:53		1
1,4-Dichlorobenzene	ND		1.0	ug/L		08/07/19 11:53		1
2,2-Dichloropropane	ND		1.0	ug/L		08/07/19 11:53		1
2-Chlorotoluene	ND		1.0	ug/L		08/07/19 11:53		1
4-Chlorotoluene	ND		1.0	ug/L		08/07/19 11:53		1
Acetone	ND		10	ug/L		08/07/19 11:53		1
Benzene	ND		0.50	ug/L		08/07/19 11:53		1
Bromobenzene	ND		1.0	ug/L		08/07/19 11:53		1
Bromochloromethane	ND		1.0	ug/L		08/07/19 11:53		1
Bromodichloromethane	ND		1.0	ug/L		08/07/19 11:53		1
Bromoform	ND		1.0	ug/L		08/07/19 11:53		1
Bromomethane	ND		1.0	ug/L		08/07/19 11:53		1
Carbon tetrachloride	ND		0.50	ug/L		08/07/19 11:53		1
Chlorobenzene	ND		1.0	ug/L		08/07/19 11:53		1
Chloroethane	ND		1.0	ug/L		08/07/19 11:53		1
Chloroform	ND		1.0	ug/L		08/07/19 11:53		1
Chloromethane	ND		1.0	ug/L		08/07/19 11:53		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		08/07/19 11:53		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		08/07/19 11:53		1
Dibromochloromethane	ND		1.0	ug/L		08/07/19 11:53		1
Dibromomethane	ND		1.0	ug/L		08/07/19 11:53		1
Dichlorodifluoromethane	ND		1.0	ug/L		08/07/19 11:53		1
Ethylbenzene	ND		1.0	ug/L		08/07/19 11:53		1
Hexachlorobutadiene	ND		1.0	ug/L		08/07/19 11:53		1
Isopropylbenzene	ND		1.0	ug/L		08/07/19 11:53		1
m,p-Xylene	ND		1.0	ug/L		08/07/19 11:53		1
Methylene Chloride	ND		5.0	ug/L		08/07/19 11:53		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		08/07/19 11:53		1
Naphthalene	ND		1.0	ug/L		08/07/19 11:53		1
n-Butylbenzene	ND		1.0	ug/L		08/07/19 11:53		1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_080219

Lab Sample ID: 440-247214-1

Matrix: Water

Date Collected: 08/02/19 09:30

Date Received: 08/03/19 12:40

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	ug/L			08/07/19 11:53	1
o-Xylene	ND		1.0	ug/L			08/07/19 11:53	1
p-Isopropyltoluene	ND		1.0	ug/L			08/07/19 11:53	1
sec-Butylbenzene	ND		1.0	ug/L			08/07/19 11:53	1
Styrene	ND		1.0	ug/L			08/07/19 11:53	1
tert-Butylbenzene	ND		1.0	ug/L			08/07/19 11:53	1
Tetrachloroethene	ND		1.0	ug/L			08/07/19 11:53	1
Toluene	ND		1.0	ug/L			08/07/19 11:53	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			08/07/19 11:53	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			08/07/19 11:53	1
Trichloroethene	ND		1.0	ug/L			08/07/19 11:53	1
Trichlorofluoromethane	ND		1.0	ug/L			08/07/19 11:53	1
Vinyl chloride	ND		0.50	ug/L			08/07/19 11:53	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 130				08/07/19 11:53	1
4-Bromofluorobenzene (Surr)	96		80 - 120				08/07/19 11:53	1
Dibromofluoromethane (Surr)	99		76 - 132				08/07/19 11:53	1
Toluene-d8 (Surr)	105		80 - 128				08/07/19 11:53	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	ug/L			08/10/19 00:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		70 - 130				08/10/19 00:05	1
4-Bromofluorobenzene (Surr)	101		80 - 120				08/10/19 00:05	1
Dibromofluoromethane (Surr)	103		76 - 132				08/10/19 00:05	1
Toluene-d8 (Surr)	102		80 - 128				08/10/19 00:05	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	22		0.49	ug/L		08/05/19 13:10	08/06/19 16:42	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	64		27 - 120			08/05/19 13:10	08/06/19 16:42	1

Client Sample ID: OC_SP210_INF_080219

Lab Sample ID: 440-247214-2

Matrix: Water

Date Collected: 08/02/19 09:36

Date Received: 08/03/19 12:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	ug/L			08/06/19 18:21	5
1,1,1-Trichloroethane	ND		5.0	ug/L			08/06/19 18:21	5
1,1,2,2-Tetrachloroethane	ND		5.0	ug/L			08/06/19 18:21	5
1,1,2-Trichloro-1,2,2-trifluoroethane	97		25	ug/L			08/06/19 18:21	5
1,1,2-Trichloroethane	ND		5.0	ug/L			08/06/19 18:21	5
1,1-Dichloroethane	ND		5.0	ug/L			08/06/19 18:21	5
1,1-Dichloropropene	ND		5.0	ug/L			08/06/19 18:21	5

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Client Sample ID: OC_SP210_INF_080219

Lab Sample ID: 440-247214-2

Matrix: Water

Date Collected: 08/02/19 09:36

Date Received: 08/03/19 12:40

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		5.0	ug/L		08/06/19 18:21		5
1,2,3-Trichloropropane	ND		5.0	ug/L		08/06/19 18:21		5
1,2,4-Trichlorobenzene	ND		5.0	ug/L		08/06/19 18:21		5
1,2,4-Trimethylbenzene	ND		5.0	ug/L		08/06/19 18:21		5
1,2-Dibromo-3-Chloropropane	ND		25	ug/L		08/06/19 18:21		5
1,2-Dibromoethane (EDB)	ND		5.0	ug/L		08/06/19 18:21		5
1,2-Dichlorobenzene	ND		5.0	ug/L		08/06/19 18:21		5
1,2-Dichloroethane	ND		5.0	ug/L		08/06/19 18:21		5
1,2-Dichloropropane	ND		5.0	ug/L		08/06/19 18:21		5
1,3,5-Trimethylbenzene	ND		5.0	ug/L		08/06/19 18:21		5
1,3-Dichlorobenzene	ND		5.0	ug/L		08/06/19 18:21		5
1,3-Dichloropropane	ND		5.0	ug/L		08/06/19 18:21		5
1,4-Dichlorobenzene	ND		5.0	ug/L		08/06/19 18:21		5
2,2-Dichloropropane	ND		5.0	ug/L		08/06/19 18:21		5
2-Chlorotoluene	ND		5.0	ug/L		08/06/19 18:21		5
4-Chlorotoluene	ND		5.0	ug/L		08/06/19 18:21		5
Acetone	ND		50	ug/L		08/06/19 18:21		5
Benzene	ND		2.5	ug/L		08/06/19 18:21		5
Bromobenzene	ND		5.0	ug/L		08/06/19 18:21		5
Bromochloromethane	ND		5.0	ug/L		08/06/19 18:21		5
Bromodichloromethane	ND		5.0	ug/L		08/06/19 18:21		5
Bromoform	ND		5.0	ug/L		08/06/19 18:21		5
Bromomethane	ND		5.0	ug/L		08/06/19 18:21		5
Carbon tetrachloride	ND		2.5	ug/L		08/06/19 18:21		5
Chlorobenzene	ND		5.0	ug/L		08/06/19 18:21		5
Chloroethane	ND		5.0	ug/L		08/06/19 18:21		5
Chloroform	13		5.0	ug/L		08/06/19 18:21		5
Chloromethane	ND		5.0	ug/L		08/06/19 18:21		5
cis-1,2-Dichloroethene	ND		5.0	ug/L		08/06/19 18:21		5
cis-1,3-Dichloropropene	ND		2.5	ug/L		08/06/19 18:21		5
Dibromochloromethane	ND		5.0	ug/L		08/06/19 18:21		5
Dibromomethane	ND		5.0	ug/L		08/06/19 18:21		5
Dichlorodifluoromethane	ND		5.0	ug/L		08/06/19 18:21		5
Ethylbenzene	ND		5.0	ug/L		08/06/19 18:21		5
Hexachlorobutadiene	ND		5.0	ug/L		08/06/19 18:21		5
Isopropylbenzene	ND		5.0	ug/L		08/06/19 18:21		5
m,p-Xylene	ND		5.0	ug/L		08/06/19 18:21		5
Methylene Chloride	ND		25	ug/L		08/06/19 18:21		5
Methyl-t-Butyl Ether (MTBE)	ND		5.0	ug/L		08/06/19 18:21		5
Naphthalene	ND		5.0	ug/L		08/06/19 18:21		5
n-Butylbenzene	ND		5.0	ug/L		08/06/19 18:21		5
N-Propylbenzene	ND		5.0	ug/L		08/06/19 18:21		5
o-Xylene	ND		5.0	ug/L		08/06/19 18:21		5
p-Isopropyltoluene	ND		5.0	ug/L		08/06/19 18:21		5
sec-Butylbenzene	ND		5.0	ug/L		08/06/19 18:21		5
Styrene	ND		5.0	ug/L		08/06/19 18:21		5
tert-Butylbenzene	ND		5.0	ug/L		08/06/19 18:21		5
Tetrachloroethene	230		5.0	ug/L		08/06/19 18:21		5
Toluene	ND		5.0	ug/L		08/06/19 18:21		5

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Client Sample ID: OC_SP210_INF_080219
 Date Collected: 08/02/19 09:36
 Date Received: 08/03/19 12:40

Lab Sample ID: 440-247214-2
 Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		5.0	ug/L			08/06/19 18:21	5
trans-1,3-Dichloropropene	ND		2.5	ug/L			08/06/19 18:21	5
Trichloroethene	26		5.0	ug/L			08/06/19 18:21	5
Trichlorofluoromethane	17		5.0	ug/L			08/06/19 18:21	5
Vinyl chloride	ND		2.5	ug/L			08/06/19 18:21	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	131	X	70 - 130		08/06/19 18:21	5
4-Bromofluorobenzene (Surr)	102		80 - 120		08/06/19 18:21	5
Dibromofluoromethane (Surr)	121		76 - 132		08/06/19 18:21	5
Toluene-d8 (Surr)	102		80 - 128		08/06/19 18:21	5

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	31		5.0	ug/L			08/10/19 00:31	5
Isopropyl alcohol	ND		1300	ug/L			08/10/19 00:31	5
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac		
1,2-Dichloroethane-d4 (Surr)	107	X	70 - 130		08/10/19 00:31	5		
4-Bromofluorobenzene (Surr)	102		80 - 120		08/10/19 00:31	5		
Dibromofluoromethane (Surr)	102		76 - 132		08/10/19 00:31	5		
Toluene-d8 (Surr)	102		80 - 128		08/10/19 00:31	5		

Client Sample ID: OC_TB_080219

Lab Sample ID: 440-247214-3

Date Collected: 08/02/19 09:00

Matrix: Water

Date Received: 08/03/19 12:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			08/06/19 18:48	1
1,1,1-Trichloroethane	ND		1.0	ug/L			08/06/19 18:48	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			08/06/19 18:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			08/06/19 18:48	1
1,1,2-Trichloroethane	ND		1.0	ug/L			08/06/19 18:48	1
1,1-Dichloroethane	ND		1.0	ug/L			08/06/19 18:48	1
1,1-Dichloroethene	ND		1.0	ug/L			08/06/19 18:48	1
1,1-Dichloropropene	ND		1.0	ug/L			08/06/19 18:48	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			08/06/19 18:48	1
1,2,3-Trichloropropane	ND		1.0	ug/L			08/06/19 18:48	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			08/06/19 18:48	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			08/06/19 18:48	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			08/06/19 18:48	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			08/06/19 18:48	1
1,2-Dichlorobenzene	ND		1.0	ug/L			08/06/19 18:48	1
1,2-Dichloroethane	ND		1.0	ug/L			08/06/19 18:48	1
1,2-Dichloropropane	ND		1.0	ug/L			08/06/19 18:48	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			08/06/19 18:48	1
1,3-Dichlorobenzene	ND		1.0	ug/L			08/06/19 18:48	1
1,3-Dichloropropane	ND		1.0	ug/L			08/06/19 18:48	1
1,4-Dichlorobenzene	ND		1.0	ug/L			08/06/19 18:48	1
2,2-Dichloropropane	ND		1.0	ug/L			08/06/19 18:48	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Client Sample ID: OC_TB_080219

Lab Sample ID: 440-247214-3

Date Collected: 08/02/19 09:00

Matrix: Water

Date Received: 08/03/19 12:40

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		1.0	ug/L		08/06/19 18:48		1
4-Chlorotoluene	ND		1.0	ug/L		08/06/19 18:48		1
Acetone	16		10	ug/L		08/06/19 18:48		1
Benzene	ND		0.50	ug/L		08/06/19 18:48		1
Bromobenzene	ND		1.0	ug/L		08/06/19 18:48		1
Bromochloromethane	ND		1.0	ug/L		08/06/19 18:48		1
Bromodichloromethane	ND		1.0	ug/L		08/06/19 18:48		1
Bromoform	ND		1.0	ug/L		08/06/19 18:48		1
Bromomethane	ND		1.0	ug/L		08/06/19 18:48		1
Carbon tetrachloride	ND		0.50	ug/L		08/06/19 18:48		1
Chlorobenzene	ND		1.0	ug/L		08/06/19 18:48		1
Chloroethane	ND		1.0	ug/L		08/06/19 18:48		1
Chloroform	ND		1.0	ug/L		08/06/19 18:48		1
Chloromethane	ND		1.0	ug/L		08/06/19 18:48		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		08/06/19 18:48		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		08/06/19 18:48		1
Dibromochloromethane	ND		1.0	ug/L		08/06/19 18:48		1
Dibromomethane	ND		1.0	ug/L		08/06/19 18:48		1
Dichlorodifluoromethane	ND		1.0	ug/L		08/06/19 18:48		1
Ethylbenzene	ND		1.0	ug/L		08/06/19 18:48		1
Hexachlorobutadiene	ND		1.0	ug/L		08/06/19 18:48		1
Isopropylbenzene	ND		1.0	ug/L		08/06/19 18:48		1
m,p-Xylene	ND		1.0	ug/L		08/06/19 18:48		1
Methylene Chloride	ND		5.0	ug/L		08/06/19 18:48		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		08/06/19 18:48		1
Naphthalene	ND		1.0	ug/L		08/06/19 18:48		1
n-Butylbenzene	ND		1.0	ug/L		08/06/19 18:48		1
N-Propylbenzene	ND		1.0	ug/L		08/06/19 18:48		1
o-Xylene	ND		1.0	ug/L		08/06/19 18:48		1
p-Isopropyltoluene	ND		1.0	ug/L		08/06/19 18:48		1
sec-Butylbenzene	ND		1.0	ug/L		08/06/19 18:48		1
Styrene	ND		1.0	ug/L		08/06/19 18:48		1
tert-Butylbenzene	ND		1.0	ug/L		08/06/19 18:48		1
Tetrachloroethene	ND		1.0	ug/L		08/06/19 18:48		1
Toluene	ND		1.0	ug/L		08/06/19 18:48		1
trans-1,2-Dichloroethene	ND		1.0	ug/L		08/06/19 18:48		1
trans-1,3-Dichloropropene	ND		0.50	ug/L		08/06/19 18:48		1
Trichloroethene	ND		1.0	ug/L		08/06/19 18:48		1
Trichlorofluoromethane	ND		1.0	ug/L		08/06/19 18:48		1
Vinyl chloride	ND		0.50	ug/L		08/06/19 18:48		1
Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	123		70 - 130			08/06/19 18:48		1
4-Bromofluorobenzene (Surr)	103		80 - 120			08/06/19 18:48		1
Dibromofluoromethane (Surr)	122		76 - 132			08/06/19 18:48		1
Toluene-d8 (Surr)	104		80 - 128			08/06/19 18:48		1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	ug/L		08/10/19 00:58		1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
SDG: Omega Chemical

Client Sample ID: OC_TB_080219

Date Collected: 08/02/19 09:00

Date Received: 08/03/19 12:40

Lab Sample ID: 440-247214-3

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		70 - 130		08/10/19 00:58	1
4-Bromofluorobenzene (Surr)	104		80 - 120		08/10/19 00:58	1
Dibromofluoromethane (Surr)	102		76 - 132		08/10/19 00:58	1
Toluene-d8 (Surr)	104		80 - 128		08/10/19 00:58	1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-247214-1	OC_SP220B_EFF_080219	101	96	99	105
440-247214-1 - RA	OC_SP220B_EFF_080219	114	101	103	102
440-247214-2	OC_SP210_INF_080219	131 X	102	121	102
440-247214-2 - RA	OC_SP210_INF_080219	107	102	102	102
440-247214-3	OC_TB_080219	123	103	122	104
440-247214-3 - RA	OC_TB_080219	116	104	102	104
440-247222-B-1 MS	Matrix Spike	107	108	106	105
440-247222-B-1 MSD	Matrix Spike Duplicate	132 X	103	119	99
440-247278-H-4 MS	Matrix Spike	98	98	98	102
440-247278-H-4 MSD	Matrix Spike Duplicate	102	94	100	101
440-247408-B-11 MS	Matrix Spike	110	102	105	97
440-247408-B-11 MSD	Matrix Spike Duplicate	113	99	102	98
LCS 440-561502/5	Lab Control Sample	111	102	102	109
LCS 440-561707/6	Lab Control Sample	101	99	98	100
LCS 440-562347/1003	Lab Control Sample	106	101	101	105
LCS 440-562347/7	Lab Control Sample	113	100	105	99
MB 440-561502/4	Method Blank	123	106	113	108
MB 440-561707/5	Method Blank	99	99	100	106
MB 440-562347/5	Method Blank	109	103	100	103

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DXE (27-120)			
440-247138-V-10-A MS	Matrix Spike	49			
440-247138-W-10-A MSD	Matrix Spike Duplicate	58			
440-247214-1	OC_SP220B_EFF_080219	64			
LCS 440-561400/2-A	Lab Control Sample	56			
MB 440-561400/1-A	Method Blank	64			

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_080219

Lab Sample ID: 440-247214-1

Matrix: Water

Date Collected: 08/02/19 09:30

Date Received: 08/03/19 12:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	561707	08/07/19 11:53	AYL	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	562347	08/10/19 00:05	GMA	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	561400	08/05/19 13:10	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			561624	08/06/19 16:42	JS1	TAL IRV

Client Sample ID: OC_SP210_INF_080219

Lab Sample ID: 440-247214-2

Matrix: Water

Date Collected: 08/02/19 09:36

Date Received: 08/03/19 12:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	5	10 mL	10 mL	562347	08/10/19 00:31	GMA	TAL IRV
Total/NA	Analysis	8260B		5	10 mL	10 mL	561502	08/06/19 18:21	GMA	TAL IRV

Client Sample ID: OC_TB_080219

Lab Sample ID: 440-247214-3

Matrix: Water

Date Collected: 08/02/19 09:00

Date Received: 08/03/19 12:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	562347	08/10/19 00:58	GMA	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	561502	08/06/19 18:48	GMA	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-561502/4

Matrix: Water

Analysis Batch: 561502

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L		08/06/19 08:20		1
1,1,1-Trichloroethane	ND		1.0	ug/L		08/06/19 08:20		1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L		08/06/19 08:20		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L		08/06/19 08:20		1
1,1,2-Trichloroethane	ND		1.0	ug/L		08/06/19 08:20		1
1,1-Dichloroethane	ND		1.0	ug/L		08/06/19 08:20		1
1,1-Dichloroethene	ND		1.0	ug/L		08/06/19 08:20		1
1,1-Dichloropropene	ND		1.0	ug/L		08/06/19 08:20		1
1,2,3-Trichlorobenzene	ND		1.0	ug/L		08/06/19 08:20		1
1,2,3-Trichloropropane	ND		1.0	ug/L		08/06/19 08:20		1
1,2,4-Trichlorobenzene	ND		1.0	ug/L		08/06/19 08:20		1
1,2,4-Trimethylbenzene	ND		1.0	ug/L		08/06/19 08:20		1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L		08/06/19 08:20		1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		08/06/19 08:20		1
1,2-Dichlorobenzene	ND		1.0	ug/L		08/06/19 08:20		1
1,2-Dichloroethane	ND		1.0	ug/L		08/06/19 08:20		1
1,2-Dichloropropene	ND		1.0	ug/L		08/06/19 08:20		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		08/06/19 08:20		1
1,3-Dichlorobenzene	ND		1.0	ug/L		08/06/19 08:20		1
1,3-Dichloropropane	ND		1.0	ug/L		08/06/19 08:20		1
1,4-Dichlorobenzene	ND		1.0	ug/L		08/06/19 08:20		1
2,2-Dichloropropane	ND		1.0	ug/L		08/06/19 08:20		1
2-Chlorotoluene	ND		1.0	ug/L		08/06/19 08:20		1
4-Chlorotoluene	ND		1.0	ug/L		08/06/19 08:20		1
Acetone	ND		10	ug/L		08/06/19 08:20		1
Benzene	ND		0.50	ug/L		08/06/19 08:20		1
Bromobenzene	ND		1.0	ug/L		08/06/19 08:20		1
Bromochloromethane	ND		1.0	ug/L		08/06/19 08:20		1
Bromodichloromethane	ND		1.0	ug/L		08/06/19 08:20		1
Bromoform	ND		1.0	ug/L		08/06/19 08:20		1
Bromomethane	ND		1.0	ug/L		08/06/19 08:20		1
Carbon tetrachloride	ND		0.50	ug/L		08/06/19 08:20		1
Chlorobenzene	ND		1.0	ug/L		08/06/19 08:20		1
Chloroethane	ND		1.0	ug/L		08/06/19 08:20		1
Chloroform	ND		1.0	ug/L		08/06/19 08:20		1
Chloromethane	ND		1.0	ug/L		08/06/19 08:20		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		08/06/19 08:20		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		08/06/19 08:20		1
Dibromochloromethane	ND		1.0	ug/L		08/06/19 08:20		1
Dibromomethane	ND		1.0	ug/L		08/06/19 08:20		1
Dichlorodifluoromethane	ND		1.0	ug/L		08/06/19 08:20		1
Ethylbenzene	ND		1.0	ug/L		08/06/19 08:20		1
Hexachlorobutadiene	ND		1.0	ug/L		08/06/19 08:20		1
Isopropylbenzene	ND		1.0	ug/L		08/06/19 08:20		1
m,p-Xylene	ND		1.0	ug/L		08/06/19 08:20		1
Methylene Chloride	ND		5.0	ug/L		08/06/19 08:20		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		08/06/19 08:20		1
Naphthalene	ND		1.0	ug/L		08/06/19 08:20		1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-561502/4

Matrix: Water

Analysis Batch: 561502

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
n-Butylbenzene	ND		1.0	ug/L			08/06/19 08:20	1
N-Propylbenzene	ND		1.0	ug/L			08/06/19 08:20	1
o-Xylene	ND		1.0	ug/L			08/06/19 08:20	1
p-Isopropyltoluene	ND		1.0	ug/L			08/06/19 08:20	1
sec-Butylbenzene	ND		1.0	ug/L			08/06/19 08:20	1
Styrene	ND		1.0	ug/L			08/06/19 08:20	1
tert-Butylbenzene	ND		1.0	ug/L			08/06/19 08:20	1
Tetrachloroethene	ND		1.0	ug/L			08/06/19 08:20	1
Toluene	ND		1.0	ug/L			08/06/19 08:20	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			08/06/19 08:20	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			08/06/19 08:20	1
Trichloroethene	ND		1.0	ug/L			08/06/19 08:20	1
Trichlorofluoromethane	ND		1.0	ug/L			08/06/19 08:20	1
Vinyl chloride	ND		0.50	ug/L			08/06/19 08:20	1
<hr/>								
Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac		
	%Recovery	Qualifier						
1,2-Dichloroethane-d4 (Surr)	123		70 - 130				08/06/19 08:20	1
4-Bromofluorobenzene (Surr)	106		80 - 120				08/06/19 08:20	1
Dibromofluoromethane (Surr)	113		76 - 132				08/06/19 08:20	1
Toluene-d8 (Surr)	108		80 - 128				08/06/19 08:20	1

Lab Sample ID: LCS 440-561502/5

Matrix: Water

Analysis Batch: 561502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
	Added	Result	Qualifier					
1,1,1,2-Tetrachloroethane	10.0	10.3		ug/L		103	60 - 141	
1,1,1-Trichloroethane	10.0	10.2		ug/L		102	70 - 130	
1,1,2,2-Tetrachloroethane	10.0	10.7		ug/L		107	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	10.5		ug/L		105	60 - 140	
1,1,2-Trichloroethane	10.0	11.2		ug/L		112	70 - 130	
1,1-Dichloroethane	10.0	10.2		ug/L		102	64 - 130	
1,1-Dichloroethene	10.0	10.4		ug/L		104	70 - 130	
1,1-Dichloropropene	10.0	9.97		ug/L		100	70 - 130	
1,2,3-Trichlorobenzene	10.0	10.9		ug/L		109	60 - 140	
1,2,3-Trichloropropane	10.0	10.7		ug/L		107	63 - 130	
1,2,4-Trichlorobenzene	10.0	10.1		ug/L		101	60 - 140	
1,2,4-Trimethylbenzene	10.0	10.3		ug/L		103	70 - 135	
1,2-Dibromo-3-Chloropropane	10.0	11.1		ug/L		111	52 - 140	
1,2-Dibromoethane (EDB)	10.0	11.2		ug/L		112	70 - 130	
1,2-Dichlorobenzene	10.0	10.4		ug/L		104	70 - 130	
1,2-Dichloroethane	10.0	11.5		ug/L		115	57 - 138	
1,2-Dichloropropane	10.0	10.6		ug/L		106	67 - 130	
1,3,5-Trimethylbenzene	10.0	10.1		ug/L		101	70 - 136	
1,3-Dichlorobenzene	10.0	10.4		ug/L		104	70 - 130	
1,3-Dichloropropane	10.0	10.8		ug/L		108	70 - 130	
1,4-Dichlorobenzene	10.0	9.99		ug/L		100	70 - 130	
2,2-Dichloropropane	10.0	10.5		ug/L		105	68 - 141	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-561502/5

Matrix: Water

Analysis Batch: 561502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2-Chlorotoluene	10.0	10.3		ug/L		103	70 - 130
4-Chlorotoluene	10.0	10.3		ug/L		103	70 - 130
Acetone	50.0	35.3		ug/L		71	10 - 150
Benzene	10.0	10.1		ug/L		101	68 - 130
Bromobenzene	10.0	9.93		ug/L		99	70 - 130
Bromochloromethane	10.0	11.1		ug/L		111	70 - 130
Bromodichloromethane	10.0	10.7		ug/L		107	70 - 132
Bromoform	10.0	10.6		ug/L		106	60 - 148
Bromomethane	10.0	9.24		ug/L		92	64 - 139
Carbon tetrachloride	10.0	10.2		ug/L		102	60 - 150
Chlorobenzene	10.0	10.2		ug/L		102	70 - 130
Chloroethane	10.0	9.28		ug/L		93	64 - 135
Chloroform	10.0	10.4		ug/L		104	70 - 130
Chloromethane	10.0	8.89		ug/L		89	47 - 140
cis-1,2-Dichloroethene	10.0	10.7		ug/L		107	70 - 133
cis-1,3-Dichloropropene	10.0	10.7		ug/L		107	70 - 133
Dibromochloromethane	10.0	10.9		ug/L		109	69 - 145
Dibromomethane	10.0	11.0		ug/L		110	70 - 130
Dichlorodifluoromethane	10.0	9.45		ug/L		94	29 - 150
Ethylbenzene	10.0	10.1		ug/L		101	70 - 130
Hexachlorobutadiene	10.0	9.98		ug/L		100	10 - 150
Isopropylbenzene	10.0	10.5		ug/L		105	70 - 136
m,p-Xylene	10.0	10.4		ug/L		104	70 - 130
Methylene Chloride	10.0	10.1		ug/L		101	52 - 130
Methyl-t-Butyl Ether (MTBE)	10.0	10.9		ug/L		109	63 - 131
Naphthalene	10.0	11.0		ug/L		110	60 - 140
n-Butylbenzene	10.0	10.2		ug/L		102	65 - 150
N-Propylbenzene	10.0	10.1		ug/L		101	67 - 139
o-Xylene	10.0	10.2		ug/L		102	70 - 130
p-Isopropyltoluene	10.0	10.2		ug/L		102	70 - 132
sec-Butylbenzene	10.0	10.2		ug/L		102	70 - 138
Styrene	10.0	10.5		ug/L		105	70 - 134
tert-Butylbenzene	10.0	10.1		ug/L		101	70 - 130
Tetrachloroethene	10.0	10.2		ug/L		102	70 - 130
Toluene	10.0	10.4		ug/L		104	70 - 130
trans-1,2-Dichloroethene	10.0	9.95		ug/L		99	70 - 130
trans-1,3-Dichloropropene	10.0	11.3		ug/L		113	70 - 132
Trichloroethene	10.0	10.0		ug/L		100	70 - 130
Trichlorofluoromethane	10.0	10.2		ug/L		102	60 - 150
Vinyl chloride	10.0	9.55		ug/L		96	59 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		70 - 130
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	102		76 - 132
Toluene-d8 (Surr)	109		80 - 128

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247222-B-1 MS

Matrix: Water

Analysis Batch: 561502

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		200	195		ug/L		97	60 - 149
1,1,1-Trichloroethane	ND		200	206		ug/L		103	70 - 130
1,1,2,2-Tetrachloroethane	ND		200	209		ug/L		105	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	F2	200	209		ug/L		105	60 - 140
1,1,2-Trichloroethane	ND		200	212		ug/L		106	70 - 130
1,1-Dichloroethane	ND		200	211		ug/L		105	65 - 130
1,1-Dichloroethene	ND	F2	200	213		ug/L		107	70 - 130
1,1-Dichloropropene	ND		200	214		ug/L		107	64 - 130
1,2,3-Trichlorobenzene	ND		200	234		ug/L		117	60 - 140
1,2,3-Trichloropropane	ND		200	211		ug/L		105	60 - 130
1,2,4-Trichlorobenzene	ND		200	228		ug/L		114	60 - 140
1,2,4-Trimethylbenzene	340		200	565		ug/L		111	70 - 130
1,2-Dibromo-3-Chloropropane	ND	F1	200	222		ug/L		111	48 - 140
1,2-Dibromoethane (EDB)	ND		200	207		ug/L		104	70 - 131
1,2-Dichlorobenzene	ND		200	210		ug/L		105	70 - 130
1,2-Dichloroethane	ND	F2	200	212		ug/L		106	56 - 146
1,2-Dichloropropane	ND		200	213		ug/L		106	69 - 130
1,3,5-Trimethylbenzene	69		200	286		ug/L		108	70 - 130
1,3-Dichlorobenzene	ND		200	204		ug/L		102	70 - 130
1,3-Dichloropropane	ND		200	212		ug/L		106	70 - 130
1,4-Dichlorobenzene	ND		200	198		ug/L		99	70 - 130
2,2-Dichloropropane	ND		200	204		ug/L		102	69 - 138
2-Chlorotoluene	ND		200	235		ug/L		118	70 - 130
4-Chlorotoluene	ND		200	230		ug/L		115	70 - 130
Acetone	830	F1	1000	1800		ug/L		97	10 - 150
Benzene	210		200	407		ug/L		97	66 - 130
Bromobenzene	ND		200	201		ug/L		100	70 - 130
Bromochloromethane	ND		200	206		ug/L		103	70 - 130
Bromodichloromethane	22		200	237		ug/L		107	70 - 138
Bromoform	ND		200	197		ug/L		99	59 - 150
Bromomethane	ND		200	182		ug/L		91	62 - 131
Carbon tetrachloride	ND		200	199		ug/L		99	60 - 150
Chlorobenzene	ND		200	200		ug/L		100	70 - 130
Chloroethane	ND		200	184		ug/L		92	68 - 130
Chloroform	520		200	710		ug/L		95	70 - 130
Chloromethane	ND		200	189		ug/L		87	39 - 144
cis-1,2-Dichloroethene	ND		200	221		ug/L		110	70 - 130
cis-1,3-Dichloropropene	ND		200	207		ug/L		104	70 - 133
Dibromochloromethane	ND		200	205		ug/L		103	70 - 148
Dibromomethane	ND	F1	200	216		ug/L		108	70 - 130
Dichlorodifluoromethane	ND	F2	200	179		ug/L		90	25 - 142
Ethylbenzene	170		200	368		ug/L		98	70 - 130
Hexachlorobutadiene	ND	F2	200	210		ug/L		105	10 - 150
Isopropylbenzene	ND		200	229		ug/L		107	70 - 132
m,p-Xylene	660	F1	200	830		ug/L		87	70 - 133
Methylene Chloride	ND		200	202		ug/L		101	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND	F1	200	213		ug/L		106	70 - 130
Naphthalene	180	F1	200	423		ug/L		121	60 - 140

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247222-B-1 MS

Matrix: Water

Analysis Batch: 561502

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
n-Butylbenzene	ND		200	249		ug/L		116	61 - 149
N-Propylbenzene	35	F2	200	250		ug/L		107	66 - 135
o-Xylene	340		200	528		ug/L		95	70 - 133
p-Isopropyltoluene	ND		200	224		ug/L		107	70 - 130
sec-Butylbenzene	ND	F2	200	228		ug/L		110	67 - 134
Styrene	ND		200	214		ug/L		107	29 - 150
tert-Butylbenzene	ND	F2	200	215		ug/L		107	70 - 130
Tetrachloroethene	25		200	224		ug/L		100	70 - 137
Toluene	1200		200	1320	4	ug/L		49	70 - 130
trans-1,2-Dichloroethene	ND		200	211		ug/L		106	70 - 130
trans-1,3-Dichloropropene	ND		200	212		ug/L		106	70 - 138
Trichloroethene	ND		200	209		ug/L		104	70 - 130
Trichlorofluoromethane	ND	F2	200	196		ug/L		98	60 - 150
Vinyl chloride	ND		200	185		ug/L		93	50 - 137
MS MS									
Surrogate	%Recovery	Qualifier		Limits					
1,2-Dichloroethane-d4 (Surr)	107			70 - 130					
4-Bromofluorobenzene (Surr)	108			80 - 120					
Dibromofluoromethane (Surr)	106			76 - 132					
Toluene-d8 (Surr)	105			80 - 128					

Lab Sample ID: 440-247222-B-1 MSD

Matrix: Water

Analysis Batch: 561502

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,1,1,2-Tetrachloroethane	ND		200	204		ug/L		102	60 - 149	5	20
1,1,1-Trichloroethane	ND		200	175		ug/L		88	70 - 130	16	20
1,1,2,2-Tetrachloroethane	ND		200	238		ug/L		119	63 - 130	13	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	F2	200	146	F2	ug/L		73	60 - 140	35	20
1,1,2-Trichloroethane	ND		200	242		ug/L		121	70 - 130	13	25
1,1-Dichloroethane	ND		200	202		ug/L		101	65 - 130	4	20
1,1-Dichloroethene	ND	F2	200	169	F2	ug/L		84	70 - 130	23	20
1,1-Dichloropropene	ND		200	175		ug/L		87	64 - 130	20	20
1,2,3-Trichlorobenzene	ND		200	260		ug/L		130	60 - 140	11	20
1,2,3-Trichloropropane	ND		200	247		ug/L		124	60 - 130	16	30
1,2,4-Trichlorobenzene	ND		200	236		ug/L		118	60 - 140	4	20
1,2,4-Trimethylbenzene	340		200	529		ug/L		92	70 - 130	7	25
1,2-Dibromo-3-Chloropropane	ND	F1	200	283	F1	ug/L		142	48 - 140	24	30
1,2-Dibromoethane (EDB)	ND		200	249		ug/L		125	70 - 131	18	25
1,2-Dichlorobenzene	ND		200	219		ug/L		109	70 - 130	4	20
1,2-Dichloroethane	ND	F2	200	264	F2	ug/L		132	56 - 146	22	20
1,2-Dichloropropane	ND		200	226		ug/L		113	69 - 130	6	20
1,3,5-Trimethylbenzene	69		200	247		ug/L		89	70 - 130	15	20
1,3-Dichlorobenzene	ND		200	199		ug/L		100	70 - 130	2	20
1,3-Dichloropropane	ND		200	239		ug/L		119	70 - 130	12	25
1,4-Dichlorobenzene	ND		200	201		ug/L		100	70 - 130	1	20
2,2-Dichloropropane	ND		200	182		ug/L		91	69 - 138	11	25

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247222-B-1 MSD

Matrix: Water

Analysis Batch: 561502

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	Limits	RPD	RPD Limit
2-Chlorotoluene	ND		200	211		ug/L		105	70 - 130	11	20
4-Chlorotoluene	ND		200	212		ug/L		106	70 - 130	8	20
Acetone	830	F1	1000	2390	F1	ug/L		156	10 - 150	28	35
Benzene	210		200	412		ug/L		99	66 - 130	1	20
Bromobenzene	ND		200	206		ug/L		103	70 - 130	2	20
Bromochloromethane	ND		200	250		ug/L		125	70 - 130	19	25
Bromodichloromethane	22		200	264		ug/L		121	70 - 138	11	20
Bromoform	ND		200	232		ug/L		116	59 - 150	16	25
Bromomethane	ND		200	179		ug/L		89	62 - 131	2	25
Carbon tetrachloride	ND		200	155		ug/L		78	60 - 150	25	25
Chlorobenzene	ND		200	197		ug/L		99	70 - 130	1	20
Chloroethane	ND		200	169		ug/L		85	68 - 130	8	25
Chloroform	520		200	757		ug/L		118	70 - 130	6	20
Chloromethane	ND		200	180		ug/L		83	39 - 144	5	25
cis-1,2-Dichloroethene	ND		200	227		ug/L		114	70 - 130	3	20
cis-1,3-Dichloropropene	ND		200	214		ug/L		107	70 - 133	3	20
Dibromochloromethane	ND		200	235		ug/L		117	70 - 148	13	25
Dibromomethane	ND	F1	200	268	F1	ug/L		134	70 - 130	22	25
Dichlorodifluoromethane	ND	F2	200	112	F2	ug/L		56	25 - 142	46	30
Ethylbenzene	170		200	338		ug/L		83	70 - 130	8	20
Hexachlorobutadiene	ND	F2	200	170	F2	ug/L		85	10 - 150	21	20
Isopropylbenzene	ND		200	195		ug/L		90	70 - 132	16	20
m,p-Xylene	660	F1	200	793	F1	ug/L		69	70 - 133	4	25
Methylene Chloride	ND		200	223		ug/L		111	52 - 130	9	20
Methyl-t-Butyl Ether (MTBE)	ND	F1	200	268	F1	ug/L		134	70 - 130	23	25
Naphthalene	180	F1	200	500	F1	ug/L		160	60 - 140	17	30
n-Butylbenzene	ND		200	204		ug/L		93	61 - 149	20	20
N-Propylbenzene	35	F2	200	202	F2	ug/L		84	66 - 135	21	20
o-Xylene	340		200	527		ug/L		94	70 - 133	0	20
p-Isopropyltoluene	ND		200	186		ug/L		88	70 - 130	19	20
sec-Butylbenzene	ND	F2	200	178	F2	ug/L		85	67 - 134	25	20
Styrene	ND		200	216		ug/L		108	29 - 150	1	35
tert-Butylbenzene	ND	F2	200	168	F2	ug/L		84	70 - 130	25	20
Tetrachloroethene	25		200	189		ug/L		82	70 - 137	17	20
Toluene	1200		200	1320	4	ug/L		47	70 - 130	0	20
trans-1,2-Dichloroethene	ND		200	185		ug/L		92	70 - 130	14	20
trans-1,3-Dichloropropene	ND		200	233		ug/L		116	70 - 138	9	25
Trichloroethene	ND		200	190		ug/L		95	70 - 130	9	20
Trichlorofluoromethane	ND	F2	200	143	F2	ug/L		71	60 - 150	31	25
Vinyl chloride	ND		200	149		ug/L		75	50 - 137	22	30
Surrogate		MSD	MSD								
		%Recovery	Qualifier		Limits						
1,2-Dichloroethane-d4 (Surr)		132	X		70 - 130						
4-Bromofluorobenzene (Surr)		103			80 - 120						
Dibromofluoromethane (Surr)		119			76 - 132						
Toluene-d8 (Surr)		99			80 - 128						

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-561707/5

Matrix: Water

Analysis Batch: 561707

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L		08/07/19 08:38		1
1,1,1-Trichloroethane	ND		1.0	ug/L		08/07/19 08:38		1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L		08/07/19 08:38		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L		08/07/19 08:38		1
1,1,2-Trichloroethane	ND		1.0	ug/L		08/07/19 08:38		1
1,1-Dichloroethane	ND		1.0	ug/L		08/07/19 08:38		1
1,1-Dichloroethene	ND		1.0	ug/L		08/07/19 08:38		1
1,1-Dichloropropene	ND		1.0	ug/L		08/07/19 08:38		1
1,2,3-Trichlorobenzene	ND		1.0	ug/L		08/07/19 08:38		1
1,2,3-Trichloropropane	ND		1.0	ug/L		08/07/19 08:38		1
1,2,4-Trichlorobenzene	ND		1.0	ug/L		08/07/19 08:38		1
1,2,4-Trimethylbenzene	ND		1.0	ug/L		08/07/19 08:38		1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L		08/07/19 08:38		1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		08/07/19 08:38		1
1,2-Dichlorobenzene	ND		1.0	ug/L		08/07/19 08:38		1
1,2-Dichloroethane	ND		1.0	ug/L		08/07/19 08:38		1
1,2-Dichloropropane	ND		1.0	ug/L		08/07/19 08:38		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		08/07/19 08:38		1
1,3-Dichlorobenzene	ND		1.0	ug/L		08/07/19 08:38		1
1,3-Dichloropropane	ND		1.0	ug/L		08/07/19 08:38		1
1,4-Dichlorobenzene	ND		1.0	ug/L		08/07/19 08:38		1
2,2-Dichloropropane	ND		1.0	ug/L		08/07/19 08:38		1
2-Chlorotoluene	ND		1.0	ug/L		08/07/19 08:38		1
4-Chlorotoluene	ND		1.0	ug/L		08/07/19 08:38		1
Acetone	ND		10	ug/L		08/07/19 08:38		1
Benzene	ND		0.50	ug/L		08/07/19 08:38		1
Bromobenzene	ND		1.0	ug/L		08/07/19 08:38		1
Bromochloromethane	ND		1.0	ug/L		08/07/19 08:38		1
Bromodichloromethane	ND		1.0	ug/L		08/07/19 08:38		1
Bromoform	ND		1.0	ug/L		08/07/19 08:38		1
Bromomethane	ND		1.0	ug/L		08/07/19 08:38		1
Carbon tetrachloride	ND		0.50	ug/L		08/07/19 08:38		1
Chlorobenzene	ND		1.0	ug/L		08/07/19 08:38		1
Chloroethane	ND		1.0	ug/L		08/07/19 08:38		1
Chloroform	ND		1.0	ug/L		08/07/19 08:38		1
Chloromethane	ND		1.0	ug/L		08/07/19 08:38		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		08/07/19 08:38		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		08/07/19 08:38		1
Dibromochloromethane	ND		1.0	ug/L		08/07/19 08:38		1
Dibromomethane	ND		1.0	ug/L		08/07/19 08:38		1
Dichlorodifluoromethane	ND		1.0	ug/L		08/07/19 08:38		1
Ethylbenzene	ND		1.0	ug/L		08/07/19 08:38		1
Hexachlorobutadiene	ND		1.0	ug/L		08/07/19 08:38		1
Isopropylbenzene	ND		1.0	ug/L		08/07/19 08:38		1
m,p-Xylene	ND		1.0	ug/L		08/07/19 08:38		1
Methylene Chloride	ND		5.0	ug/L		08/07/19 08:38		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		08/07/19 08:38		1
Naphthalene	ND		1.0	ug/L		08/07/19 08:38		1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-561707/5

Matrix: Water

Analysis Batch: 561707

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
n-Butylbenzene	ND		1.0	ug/L			08/07/19 08:38	1
N-Propylbenzene	ND		1.0	ug/L			08/07/19 08:38	1
o-Xylene	ND		1.0	ug/L			08/07/19 08:38	1
p-Isopropyltoluene	ND		1.0	ug/L			08/07/19 08:38	1
sec-Butylbenzene	ND		1.0	ug/L			08/07/19 08:38	1
Styrene	ND		1.0	ug/L			08/07/19 08:38	1
tert-Butylbenzene	ND		1.0	ug/L			08/07/19 08:38	1
Tetrachloroethene	ND		1.0	ug/L			08/07/19 08:38	1
Toluene	ND		1.0	ug/L			08/07/19 08:38	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			08/07/19 08:38	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			08/07/19 08:38	1
Trichloroethene	ND		1.0	ug/L			08/07/19 08:38	1
Trichlorofluoromethane	ND		1.0	ug/L			08/07/19 08:38	1
Vinyl chloride	ND		0.50	ug/L			08/07/19 08:38	1
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Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac	13	
	%Recovery	Qualifier						
1,2-Dichloroethane-d4 (Surr)	99		70 - 130				08/07/19 08:38	1
4-Bromofluorobenzene (Surr)	99		80 - 120				08/07/19 08:38	1
Dibromofluoromethane (Surr)	100		76 - 132				08/07/19 08:38	1
Toluene-d8 (Surr)	106		80 - 128				08/07/19 08:38	1

Lab Sample ID: LCS 440-561707/6

Matrix: Water

Analysis Batch: 561707

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
	Added	Result	Qualifier					
1,1,1,2-Tetrachloroethane	10.0	10.4		ug/L		104	60 - 141	
1,1,1-Trichloroethane	10.0	9.35		ug/L		94	70 - 130	
1,1,2,2-Tetrachloroethane	10.0	10.1		ug/L		101	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.29		ug/L		93	60 - 140	
1,1,2-Trichloroethane	10.0	10.1		ug/L		101	70 - 130	
1,1-Dichloroethane	10.0	9.54		ug/L		95	64 - 130	
1,1-Dichloroethene	10.0	8.69		ug/L		87	70 - 130	
1,1-Dichloropropene	10.0	9.47		ug/L		95	70 - 130	
1,2,3-Trichlorobenzene	10.0	10.1		ug/L		101	60 - 140	
1,2,3-Trichloropropane	10.0	10.2		ug/L		102	63 - 130	
1,2,4-Trichlorobenzene	10.0	10.4		ug/L		104	60 - 140	
1,2,4-Trimethylbenzene	10.0	10.4		ug/L		104	70 - 135	
1,2-Dibromo-3-Chloropropane	10.0	6.52		ug/L		65	52 - 140	
1,2-Dibromoethane (EDB)	10.0	10.5		ug/L		105	70 - 130	
1,2-Dichlorobenzene	10.0	10.4		ug/L		104	70 - 130	
1,2-Dichloroethane	10.0	9.58		ug/L		96	57 - 138	
1,2-Dichloropropane	10.0	9.42		ug/L		94	67 - 130	
1,3,5-Trimethylbenzene	10.0	9.84		ug/L		98	70 - 136	
1,3-Dichlorobenzene	10.0	9.88		ug/L		99	70 - 130	
1,3-Dichloropropane	10.0	9.91		ug/L		99	70 - 130	
1,4-Dichlorobenzene	10.0	9.73		ug/L		97	70 - 130	
2,2-Dichloropropane	10.0	9.72		ug/L		97	68 - 141	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-561707/6

Matrix: Water

Analysis Batch: 561707

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2-Chlorotoluene	10.0	9.86		ug/L	99	70 - 130	
4-Chlorotoluene	10.0	9.70		ug/L	97	70 - 130	
Acetone	50.0	48.7		ug/L	97	10 - 150	
Benzene	10.0	9.63		ug/L	96	68 - 130	
Bromobenzene	10.0	10.0		ug/L	100	70 - 130	
Bromochloromethane	10.0	10.1		ug/L	101	70 - 130	
Bromodichloromethane	10.0	9.33		ug/L	93	70 - 132	
Bromoform	10.0	10.0		ug/L	100	60 - 148	
Bromomethane	10.0	8.89		ug/L	89	64 - 139	
Carbon tetrachloride	10.0	9.13		ug/L	91	60 - 150	
Chlorobenzene	10.0	9.72		ug/L	97	70 - 130	
Chloroethane	10.0	11.9		ug/L	119	64 - 135	
Chloroform	10.0	9.50		ug/L	95	70 - 130	
Chloromethane	10.0	8.28		ug/L	83	47 - 140	
cis-1,2-Dichloroethene	10.0	9.67		ug/L	97	70 - 133	
cis-1,3-Dichloropropene	10.0	10.8		ug/L	108	70 - 133	
Dibromochloromethane	10.0	10.3		ug/L	103	69 - 145	
Dibromomethane	10.0	9.94		ug/L	99	70 - 130	
Dichlorodifluoromethane	10.0	6.39		ug/L	64	29 - 150	
Ethylbenzene	10.0	9.70		ug/L	97	70 - 130	
Hexachlorobutadiene	10.0	10.9		ug/L	109	10 - 150	
Isopropylbenzene	10.0	10.1		ug/L	101	70 - 136	
m,p-Xylene	10.0	9.49		ug/L	95	70 - 130	
Methylene Chloride	10.0	9.52		ug/L	95	52 - 130	
Methyl-t-Butyl Ether (MTBE)	10.0	9.08		ug/L	91	63 - 131	
Naphthalene	10.0	9.57		ug/L	96	60 - 140	
n-Butylbenzene	10.0	10.6		ug/L	106	65 - 150	
N-Propylbenzene	10.0	9.74		ug/L	97	67 - 139	
o-Xylene	10.0	9.91		ug/L	99	70 - 130	
p-Isopropyltoluene	10.0	10.5		ug/L	105	70 - 132	
sec-Butylbenzene	10.0	10.3		ug/L	103	70 - 138	
Styrene	10.0	10.8		ug/L	108	70 - 134	
tert-Butylbenzene	10.0	10.2		ug/L	102	70 - 130	
Tetrachloroethene	10.0	10.2		ug/L	102	70 - 130	
Toluene	10.0	9.71		ug/L	97	70 - 130	
trans-1,2-Dichloroethene	10.0	8.99		ug/L	90	70 - 130	
trans-1,3-Dichloropropene	10.0	10.5		ug/L	105	70 - 132	
Trichloroethene	10.0	9.74		ug/L	97	70 - 130	
Trichlorofluoromethane	10.0	8.46		ug/L	85	60 - 150	
Vinyl chloride	10.0	8.68		ug/L	87	59 - 133	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		70 - 130
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	98		76 - 132
Toluene-d8 (Surr)	100		80 - 128

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247278-H-4 MS

Matrix: Water

Analysis Batch: 561707

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		10.0	10.4		ug/L		104	60 - 149
1,1,1-Trichloroethane	ND		10.0	10.3		ug/L		103	70 - 130
1,1,2,2-Tetrachloroethane	ND		10.0	10.2		ug/L		102	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	10.2		ug/L		102	60 - 140
1,1,2-Trichloroethane	ND		10.0	10.4		ug/L		104	70 - 130
1,1-Dichloroethane	ND		10.0	10.1		ug/L		101	65 - 130
1,1-Dichloroethene	ND		10.0	9.86		ug/L		99	70 - 130
1,1-Dichloropropene	ND		10.0	10.4		ug/L		104	64 - 130
1,2,3-Trichlorobenzene	ND		10.0	11.2		ug/L		112	60 - 140
1,2,3-Trichloropropane	ND		10.0	9.82		ug/L		98	60 - 130
1,2,4-Trichlorobenzene	ND		10.0	11.4		ug/L		114	60 - 140
1,2,4-Trimethylbenzene	ND		10.0	10.9		ug/L		109	70 - 130
1,2-Dibromo-3-Chloropropane	ND		10.0	10.5		ug/L		105	48 - 140
1,2-Dibromoethane (EDB)	ND		10.0	10.6		ug/L		106	70 - 131
1,2-Dichlorobenzene	ND		10.0	11.0		ug/L		110	70 - 130
1,2-Dichloroethane	ND		10.0	9.72		ug/L		97	56 - 146
1,2-Dichloropropane	ND		10.0	10.1		ug/L		101	69 - 130
1,3,5-Trimethylbenzene	ND		10.0	10.6		ug/L		106	70 - 130
1,3-Dichlorobenzene	ND		10.0	11.0		ug/L		110	70 - 130
1,3-Dichloropropane	ND		10.0	10.5		ug/L		105	70 - 130
1,4-Dichlorobenzene	ND		10.0	10.1		ug/L		101	70 - 130
2,2-Dichloropropane	ND		10.0	10.8		ug/L		108	69 - 138
2-Chlorotoluene	ND		10.0	10.5		ug/L		105	70 - 130
4-Chlorotoluene	ND		10.0	10.5		ug/L		105	70 - 130
Acetone	ND		50.0	61.7		ug/L		123	10 - 150
Benzene	ND		10.0	9.84		ug/L		98	66 - 130
Bromobenzene	ND		10.0	9.75		ug/L		97	70 - 130
Bromochloromethane	ND		10.0	9.68		ug/L		97	70 - 130
Bromodichloromethane	ND		10.0	9.41		ug/L		94	70 - 138
Bromoform	ND		10.0	10.1		ug/L		101	59 - 150
Bromomethane	ND		10.0	9.48		ug/L		95	62 - 131
Carbon tetrachloride	ND		10.0	9.86		ug/L		99	60 - 150
Chlorobenzene	ND		10.0	9.91		ug/L		99	70 - 130
Chloroethane	ND		10.0	11.3		ug/L		113	68 - 130
Chloroform	ND		10.0	10.2		ug/L		102	70 - 130
Chloromethane	ND		10.0	9.00		ug/L		90	39 - 144
cis-1,2-Dichloroethene	ND		10.0	9.95		ug/L		100	70 - 130
cis-1,3-Dichloropropene	ND		10.0	11.3		ug/L		113	70 - 133
Dibromochloromethane	ND		10.0	10.7		ug/L		107	70 - 148
Dibromomethane	ND		10.0	9.51		ug/L		95	70 - 130
Dichlorodifluoromethane	ND		10.0	6.44		ug/L		64	25 - 142
Ethylbenzene	ND		10.0	10.3		ug/L		103	70 - 130
Hexachlorobutadiene	ND		10.0	11.8		ug/L		118	10 - 150
Isopropylbenzene	ND		10.0	10.8		ug/L		108	70 - 132
m,p-Xylene	ND		10.0	10.4		ug/L		104	70 - 133
Methylene Chloride	ND		10.0	10.2		ug/L		102	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		10.0	9.14		ug/L		91	70 - 130
Naphthalene	ND		10.0	10.3		ug/L		103	60 - 140

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247278-H-4 MS

Matrix: Water

Analysis Batch: 561707

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	
n-Butylbenzene	ND		10.0	11.1		ug/L		111	61 - 149	
N-Propylbenzene	ND		10.0	10.5		ug/L		105	66 - 135	
o-Xylene	ND		10.0	10.4		ug/L		104	70 - 133	
p-Isopropyltoluene	ND		10.0	11.2		ug/L		112	70 - 130	
sec-Butylbenzene	ND		10.0	10.6		ug/L		106	67 - 134	
Styrene	ND		10.0	11.7		ug/L		117	29 - 150	
tert-Butylbenzene	ND		10.0	10.6		ug/L		106	70 - 130	
Tetrachloroethene	ND		10.0	11.0		ug/L		110	70 - 137	
Toluene	ND		10.0	10.5		ug/L		105	70 - 130	
trans-1,2-Dichloroethene	ND		10.0	9.69		ug/L		97	70 - 130	
trans-1,3-Dichloropropene	ND		10.0	10.9		ug/L		109	70 - 138	
Trichloroethene	ND		10.0	10.4		ug/L		104	70 - 130	
Trichlorofluoromethane	ND		10.0	9.10		ug/L		91	60 - 150	
Vinyl chloride	ND		10.0	9.27		ug/L		93	50 - 137	
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Surrogate	MS %Recovery	MS Qualifier	MS Limits							
1,2-Dichloroethane-d4 (Surr)	98		70 - 130							
4-Bromofluorobenzene (Surr)	98		80 - 120							
Dibromofluoromethane (Surr)	98		76 - 132							
Toluene-d8 (Surr)	102		80 - 128							

Lab Sample ID: 440-247278-H-4 MSD

Matrix: Water

Analysis Batch: 561707

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1,1,2-Tetrachloroethane	ND		10.0	10.9		ug/L		109	60 - 149	5	20
1,1,1-Trichloroethane	ND		10.0	10.3		ug/L		103	70 - 130	0	20
1,1,2,2-Tetrachloroethane	ND		10.0	10.3		ug/L		103	63 - 130	1	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	9.62		ug/L		96	60 - 140	6	20
1,1,2-Trichloroethane	ND		10.0	10.6		ug/L		106	70 - 130	2	25
1,1-Dichloroethane	ND		10.0	10.1		ug/L		101	65 - 130	0	20
1,1-Dichloroethene	ND		10.0	10.0		ug/L		100	70 - 130	2	20
1,1-Dichloropropene	ND		10.0	10.1		ug/L		101	64 - 130	3	20
1,2,3-Trichlorobenzene	ND		10.0	12.3		ug/L		123	60 - 140	9	20
1,2,3-Trichloropropane	ND		10.0	10.8		ug/L		108	60 - 130	9	30
1,2,4-Trichlorobenzene	ND		10.0	12.0		ug/L		120	60 - 140	4	20
1,2,4-Trimethylbenzene	ND		10.0	10.8		ug/L		108	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		10.0	10.8		ug/L		108	48 - 140	2	30
1,2-Dibromoethane (EDB)	ND		10.0	10.6		ug/L		106	70 - 131	0	25
1,2-Dichlorobenzene	ND		10.0	10.8		ug/L		108	70 - 130	2	20
1,2-Dichloroethane	ND		10.0	9.94		ug/L		99	56 - 146	2	20
1,2-Dichloropropane	ND		10.0	9.80		ug/L		98	69 - 130	3	20
1,3,5-Trimethylbenzene	ND		10.0	10.5		ug/L		105	70 - 130	2	20
1,3-Dichlorobenzene	ND		10.0	10.8		ug/L		108	70 - 130	1	20
1,3-Dichloropropane	ND		10.0	10.6		ug/L		106	70 - 130	1	25
1,4-Dichlorobenzene	ND		10.0	9.95		ug/L		99	70 - 130	1	20
2,2-Dichloropropane	ND		10.0	10.6		ug/L		106	69 - 138	2	25

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247278-H-4 MSD

Matrix: Water

Analysis Batch: 561707

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD	RPD Limit
2-Chlorotoluene	ND		10.0	10.5		ug/L		105	70 - 130	0 20
4-Chlorotoluene	ND		10.0	9.83		ug/L		98	70 - 130	6 20
Acetone	ND		50.0	61.3		ug/L		123	10 - 150	1 35
Benzene	ND		10.0	9.84		ug/L		98	66 - 130	0 20
Bromobenzene	ND		10.0	10.1		ug/L		101	70 - 130	4 20
Bromochloromethane	ND		10.0	10.4		ug/L		104	70 - 130	7 25
Bromodichloromethane	ND		10.0	9.51		ug/L		95	70 - 138	1 20
Bromoform	ND		10.0	10.4		ug/L		104	59 - 150	3 25
Bromomethane	ND		10.0	9.24		ug/L		92	62 - 131	3 25
Carbon tetrachloride	ND		10.0	9.86		ug/L		99	60 - 150	0 25
Chlorobenzene	ND		10.0	10.4		ug/L		104	70 - 130	5 20
Chloroethane	ND		10.0	11.8		ug/L		118	68 - 130	4 25
Chloroform	ND		10.0	10.3		ug/L		103	70 - 130	1 20
Chloromethane	ND		10.0	8.63		ug/L		86	39 - 144	4 25
cis-1,2-Dichloroethene	ND		10.0	10.9		ug/L		109	70 - 130	9 20
cis-1,3-Dichloropropene	ND		10.0	11.0		ug/L		110	70 - 133	3 20
Dibromochloromethane	ND		10.0	10.8		ug/L		108	70 - 148	1 25
Dibromomethane	ND		10.0	10.7		ug/L		107	70 - 130	12 25
Dichlorodifluoromethane	ND		10.0	7.12		ug/L		71	25 - 142	10 30
Ethylbenzene	ND		10.0	10.3		ug/L		103	70 - 130	0 20
Hexachlorobutadiene	ND		10.0	12.3		ug/L		123	10 - 150	4 20
Isopropylbenzene	ND		10.0	10.8		ug/L		108	70 - 132	0 20
m,p-Xylene	ND		10.0	10.4		ug/L		104	70 - 133	0 25
Methylene Chloride	ND		10.0	9.89		ug/L		99	52 - 130	3 20
Methyl-t-Butyl Ether (MTBE)	ND		10.0	9.46		ug/L		95	70 - 130	3 25
Naphthalene	ND		10.0	11.1		ug/L		111	60 - 140	7 30
n-Butylbenzene	ND		10.0	11.2		ug/L		112	61 - 149	1 20
N-Propylbenzene	ND		10.0	10.5		ug/L		105	66 - 135	0 20
o-Xylene	ND		10.0	10.3		ug/L		103	70 - 133	1 20
p-Isopropyltoluene	ND		10.0	10.9		ug/L		109	70 - 130	3 20
sec-Butylbenzene	ND		10.0	10.8		ug/L		108	67 - 134	2 20
Styrene	ND		10.0	11.5		ug/L		115	29 - 150	2 35
tert-Butylbenzene	ND		10.0	10.6		ug/L		106	70 - 130	0 20
Tetrachloroethene	ND		10.0	11.2		ug/L		112	70 - 137	2 20
Toluene	ND		10.0	10.5		ug/L		105	70 - 130	0 20
trans-1,2-Dichloroethene	ND		10.0	9.72		ug/L		97	70 - 130	0 20
trans-1,3-Dichloropropene	ND		10.0	10.9		ug/L		109	70 - 138	0 25
Trichloroethene	ND		10.0	10.3		ug/L		103	70 - 130	1 20
Trichlorofluoromethane	ND		10.0	9.07		ug/L		91	60 - 150	0 25
Vinyl chloride	ND		10.0	8.69		ug/L		87	50 - 137	6 30
Surrogate		MSD	MSD							
		%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)		102		70 - 130						
4-Bromofluorobenzene (Surr)		94		80 - 120						
Dibromofluoromethane (Surr)		100		76 - 132						
Toluene-d8 (Surr)		101		80 - 128						

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-562347/5

Matrix: Water

Analysis Batch: 562347

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		1.0	ug/L			08/09/19 20:08	1
Isopropyl alcohol	ND		250	ug/L			08/09/19 20:08	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 130				08/09/19 20:08	1
4-Bromofluorobenzene (Surr)	103		80 - 120				08/09/19 20:08	1
Dibromofluoromethane (Surr)	100		76 - 132				08/09/19 20:08	1
Toluene-d8 (Surr)	103		80 - 128				08/09/19 20:08	1

Lab Sample ID: LCS 440-562347/1003

Matrix: Water

Analysis Batch: 562347

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol		250	246	J	ug/L		99	49 - 142
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
1,2-Dichloroethane-d4 (Surr)	106		70 - 130					
4-Bromofluorobenzene (Surr)	101		80 - 120					
Dibromofluoromethane (Surr)	101		76 - 132					
Toluene-d8 (Surr)	105		80 - 128					

Lab Sample ID: LCS 440-562347/7

Matrix: Water

Analysis Batch: 562347

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene		10.0	9.63		ug/L		96	70 - 130
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
1,2-Dichloroethane-d4 (Surr)	113		70 - 130					
4-Bromofluorobenzene (Surr)	100		80 - 120					
Dibromofluoromethane (Surr)	105		76 - 132					
Toluene-d8 (Surr)	99		80 - 128					

Lab Sample ID: 440-247408-B-11 MS

Matrix: Water

Analysis Batch: 562347

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	ND		100	93.1		ug/L		93	70 - 130
Isopropyl alcohol	ND		2500	ND		ug/L		88	46 - 142
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	110		70 - 130						
4-Bromofluorobenzene (Surr)	102		80 - 120						
Dibromofluoromethane (Surr)	105		76 - 132						

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

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QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247408-B-11 MS

Matrix: Water

Analysis Batch: 562347

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	MS	MS	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)			97		80 - 128

Lab Sample ID: 440-247408-B-11 MSD

Matrix: Water

Analysis Batch: 562347

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD	Limit
1,1-Dichloroethene	ND		100	97.8		ug/L	98	70 - 130	5	20
Isopropyl alcohol	ND		2500	2730		ug/L	109	46 - 142	22	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	113		70 - 130
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	102		76 - 132
Toluene-d8 (Surr)	98		80 - 128

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-561400/1-A

Matrix: Water

Analysis Batch: 561624

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 561400

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	ug/L		08/05/19 13:10	08/06/19 14:54	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	64		27 - 120			08/05/19 13:10	08/06/19 14:54	1

Lab Sample ID: LCS 440-561400/2-A

Matrix: Water

Analysis Batch: 561624

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 561400

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limit
1,4-Dioxane	2.00	1.26		ug/L		63	36 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,4-Dioxane-d8 (Surr)	56		27 - 120				

Lab Sample ID: 440-247138-V-10-A MS

Matrix: Water

Analysis Batch: 561624

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 561400

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec.	Limit
1,4-Dioxane	ND		1.97	1.30		ug/L		55	10 - 150
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	49		27 - 120						

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
SDG: Omega Chemical

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 440-247138-W-10-A MSD

Matrix: Water

Analysis Batch: 561624

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 561400

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD	RPD Limit
1,4-Dioxane	ND		1.99	1.52		ug/L	65	10 - 150	16	35
<hr/>										
Surrogate	MSD %Recovery	MSD Qualifier	Limits							
1,4-Dioxane-d8 (Surr)	58		27 - 120							

QC Association Summary

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
 SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 561502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-247214-2	OC_SP210_INF_080219	Total/NA	Water	8260B	
440-247214-3	OC_TB_080219	Total/NA	Water	8260B	
MB 440-561502/4	Method Blank	Total/NA	Water	8260B	
LCS 440-561502/5	Lab Control Sample	Total/NA	Water	8260B	
440-247222-B-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-247222-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 561707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-247214-1	OC_SP220B_EFF_080219	Total/NA	Water	8260B	
MB 440-561707/5	Method Blank	Total/NA	Water	8260B	
LCS 440-561707/6	Lab Control Sample	Total/NA	Water	8260B	
440-247278-H-4 MS	Matrix Spike	Total/NA	Water	8260B	
440-247278-H-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 562347

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-247214-1 - RA	OC_SP220B_EFF_080219	Total/NA	Water	8260B	
440-247214-2 - RA	OC_SP210_INF_080219	Total/NA	Water	8260B	
440-247214-3 - RA	OC_TB_080219	Total/NA	Water	8260B	
MB 440-562347/5	Method Blank	Total/NA	Water	8260B	
LCS 440-562347/1003	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-562347/7	Lab Control Sample	Total/NA	Water	8260B	
440-247408-B-11 MS	Matrix Spike	Total/NA	Water	8260B	
440-247408-B-11 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 561400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-247214-1	OC_SP220B_EFF_080219	Total/NA	Water	3520C	
MB 440-561400/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-561400/2-A	Lab Control Sample	Total/NA	Water	3520C	
440-247138-V-10-A MS	Matrix Spike	Total/NA	Water	3520C	
440-247138-W-10-A MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

Analysis Batch: 561624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-247214-1	OC_SP220B_EFF_080219	Total/NA	Water	8270C SIM	561400
MB 440-561400/1-A	Method Blank	Total/NA	Water	8270C SIM	561400
LCS 440-561400/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	561400
440-247138-V-10-A MS	Matrix Spike	Total/NA	Water	8270C SIM	561400
440-247138-W-10-A MSD	Matrix Spike Duplicate	Total/NA	Water	8270C SIM	561400

Definitions/Glossary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
SDG: Omega Chemical

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

Glossary

Abbreviation

These commonly used abbreviations may or may not be present in this report.

□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-247214-1
SDG: Omega Chemical

Laboratory: Eurofins TestAmerica, Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	CA ELAP 2706	06-30-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C. Job Number: 440-247214-1
SDG Number: Omega Chemical

Login Number: 247214

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Bonta, Lucia F

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True		1
The cooler's custody seal, if present, is intact.	N/A	Not present	2
Sample custody seals, if present, are intact.	N/A	Not Present	3
The cooler or samples do not appear to have been compromised or tampered with.	True		4
Samples were received on ice.	False	Water present in cooler; indicates evidence of melted ice.	5
Cooler Temperature is acceptable.	False	Cooler temperature outside required temperature criteria.	6
Cooler Temperature is recorded.	True		7
COC is present.	True		8
COC is filled out in ink and legible.	True		9
COC is filled out with all pertinent information.	True		10
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.	11
There are no discrepancies between the containers received and the COC.	True		12
Samples are received within Holding Time (excluding tests with immediate HTs)	True		13
Sample containers have legible labels.	True		14
Containers are not broken or leaking.	True		15
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	Headspace larger than 1/4".	
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		



ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

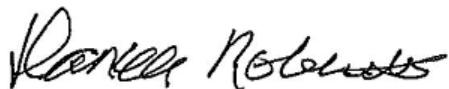
Laboratory Job ID: 440-248097-1

Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chem.-2019 Semi-Ann. GWM

For:

Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson



Authorized for release by:
8/30/2019 12:10:24 PM

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-248097-1	OC_GW_OW-12_20190815N	Water	08/15/19 14:20	08/15/19 15:45	
440-248097-2	OC_TB1_20190815	Water	08/15/19 07:00	08/15/19 15:45	

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Eurofins TestAmerica, Irvine

Case Narrative

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1
SDG: Omega Chemical

Job ID: 440-248097-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-248097-1

Comments

No additional comments.

Receipt

The samples were received on 8/15/2019 3:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.3° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-12_20190815N

Lab Sample ID: 440-248097-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	20		10	10	ug/L	1		8260B	Total/NA

Client Sample ID: OC_TB1_20190815

Lab Sample ID: 440-248097-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-12_20190815N

Lab Sample ID: 440-248097-1

Matrix: Water

Date Collected: 08/15/19 14:20

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/16/19 22:56	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/16/19 22:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/16/19 22:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/16/19 22:56	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/16/19 22:56	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/16/19 22:56	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/16/19 22:56	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/16/19 22:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/16/19 22:56	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/16/19 22:56	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/16/19 22:56	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/16/19 22:56	1
1,2-Dichloropropene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/16/19 22:56	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/16/19 22:56	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Acetone	20		10	10	ug/L			08/16/19 22:56	1
Benzene	ND		0.50	0.25	ug/L			08/16/19 22:56	1
Bromobenzene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Bromoform	ND		1.0	0.40	ug/L			08/16/19 22:56	1
Bromomethane	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/16/19 22:56	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Chloroethane	ND		1.0	0.40	ug/L			08/16/19 22:56	1
Chloroform	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Chloromethane	ND		1.0	0.25	ug/L			08/16/19 22:56	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/16/19 22:56	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Dibromomethane	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/16/19 22:56	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/16/19 22:56	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/16/19 22:56	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Naphthalene	ND		1.0	0.40	ug/L			08/16/19 22:56	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/16/19 22:56	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-12_20190815N

Lab Sample ID: 440-248097-1

Matrix: Water

Date Collected: 08/15/19 14:20

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
o-Xylene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Styrene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Toluene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/16/19 22:56	1
Trichloroethene	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/16/19 22:56	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/16/19 22:56	1

Tentatively Identified Compound

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/16/19 22:56	1

Surrogate

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		70 - 130		08/16/19 22:56	1
4-Bromofluorobenzene (Surr)	96		80 - 120		08/16/19 22:56	1
Dibromofluoromethane (Surr)	117		76 - 132		08/16/19 22:56	1
Toluene-d8 (Surr)	100		80 - 128		08/16/19 22:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/27/19 21:46	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/27/19 21:46	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	90		70 - 130		08/27/19 21:46	1			
4-Bromofluorobenzene (Surr)	100		80 - 120		08/27/19 21:46	1			
Dibromofluoromethane (Surr)	98		76 - 132		08/27/19 21:46	1			
Toluene-d8 (Surr)	102		80 - 128		08/27/19 21:46	1			

Client Sample ID: OC_TB1_20190815

Lab Sample ID: 440-248097-2

Matrix: Water

Date Collected: 08/15/19 07:00

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/16/19 23:22	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/16/19 23:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/16/19 23:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/16/19 23:22	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/16/19 23:22	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/16/19 23:22	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/16/19 23:22	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Client Sample ID: OC_TB1_20190815

Lab Sample ID: 440-248097-2

Matrix: Water

Date Collected: 08/15/19 07:00

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/16/19 23:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/16/19 23:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/16/19 23:22	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/16/19 23:22	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/16/19 23:22	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/16/19 23:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/16/19 23:22	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/16/19 23:22	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Acetone	ND		10	10	ug/L			08/16/19 23:22	1
Benzene	ND		0.50	0.25	ug/L			08/16/19 23:22	1
Bromobenzene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Bromoform	ND		1.0	0.40	ug/L			08/16/19 23:22	1
Bromomethane	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/16/19 23:22	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Chloroethane	ND		1.0	0.40	ug/L			08/16/19 23:22	1
Chloroform	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Chloromethane	ND		1.0	0.25	ug/L			08/16/19 23:22	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/16/19 23:22	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Dibromomethane	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/16/19 23:22	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/16/19 23:22	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/16/19 23:22	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Naphthalene	ND		1.0	0.40	ug/L			08/16/19 23:22	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/16/19 23:22	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
o-Xylene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Styrene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Toluene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 23:22	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Client Sample ID: OC_TB1_20190815

Lab Sample ID: 440-248097-2

Matrix: Water

Date Collected: 08/15/19 07:00

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/16/19 23:22	1
Trichloroethene	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/16/19 23:22	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/16/19 23:22	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/16/19 23:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		70 - 130		08/16/19 23:22	1
4-Bromofluorobenzene (Surr)	96		80 - 120		08/16/19 23:22	1
Dibromofluoromethane (Surr)	115		76 - 132		08/16/19 23:22	1
Toluene-d8 (Surr)	96		80 - 128		08/16/19 23:22	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/27/19 23:05	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/27/19 23:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 130		08/27/19 23:05	1
4-Bromofluorobenzene (Surr)	102		80 - 120		08/27/19 23:05	1
Dibromofluoromethane (Surr)	98		76 - 132		08/27/19 23:05	1
Toluene-d8 (Surr)	99		80 - 128		08/27/19 23:05	1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-247942-C-5 MS	Matrix Spike	112	94	113	98
440-247942-C-5 MSD	Matrix Spike Duplicate	116	92	113	97
440-248097-1	OC_GW_OW-12_20190815N	117	96	117	100
440-248097-1 - RA	OC_GW_OW-12_20190815N	90	100	98	102
440-248097-1 MS	OC_GW_OW-12_20190815N	94	101	99	97
440-248097-1 MSD	OC_GW_OW-12_20190815N	93	97	97	99
440-248097-2	OC_TB1_20190815	120	96	115	96
440-248097-2 - RA	OC_TB1_20190815	94	102	98	99
LCS 440-563745/7	Lab Control Sample	111	96	112	92
LCS 440-565761/1003	Lab Control Sample	90	97	100	100
MB 440-563745/5	Method Blank	114	96	112	99
MB 440-565761/4	Method Blank	93	94	97	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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Lab Chronicle

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-12_20190815N

Lab Sample ID: 440-248097-1

Matrix: Water

Date Collected: 08/15/19 14:20

Date Received: 08/15/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563745	08/16/19 22:56	GMA	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565761	08/27/19 21:46	WC	TAL IRV

Client Sample ID: OC_TB1_20190815

Lab Sample ID: 440-248097-2

Matrix: Water

Date Collected: 08/15/19 07:00

Date Received: 08/15/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563745	08/16/19 23:22	GMA	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565761	08/27/19 23:05	WC	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-563745/5

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/16/19 19:25	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/16/19 19:25	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/16/19 19:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/16/19 19:25	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/16/19 19:25	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/16/19 19:25	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Acetone	ND		10	10	ug/L			08/16/19 19:25	1
Benzene	ND		0.50	0.25	ug/L			08/16/19 19:25	1
Bromobenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Bromoform	ND		1.0	0.40	ug/L			08/16/19 19:25	1
Bromomethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/16/19 19:25	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Chloroethane	ND		1.0	0.40	ug/L			08/16/19 19:25	1
Chloroform	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Chloromethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/16/19 19:25	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Dibromomethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/16/19 19:25	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/16/19 19:25	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/16/19 19:25	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Naphthalene	ND		1.0	0.40	ug/L			08/16/19 19:25	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-563745/5

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.40	ug/L			08/16/19 19:25	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
o-Xylene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Styrene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Toluene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/16/19 19:25	1
Trichloroethene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/16/19 19:25	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
	None		ug/L						
Surrogate									
1,2-Dichloroethane-d4 (Surr)	114		70 - 130				Prepared	08/16/19 19:25	1
4-Bromofluorobenzene (Surr)	96		80 - 120					08/16/19 19:25	1
Dibromofluoromethane (Surr)	112		76 - 132					08/16/19 19:25	1
Toluene-d8 (Surr)	99		80 - 128					08/16/19 19:25	1

Lab Sample ID: LCS 440-563745/7

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	10.0	10.8		ug/L		108	60 - 141
1,1,1-Trichloroethane	10.0	10.9		ug/L		109	70 - 130
1,1,2,2-Tetrachloroethane	10.0	9.34		ug/L		93	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	12.0		ug/L		120	60 - 140
1,1,2-Trichloroethane	10.0	9.44		ug/L		94	70 - 130
1,1-Dichloroethane	10.0	11.2		ug/L		112	64 - 130
1,1-Dichloroethene	10.0	10.1		ug/L		101	70 - 130
1,1-Dichloropropene	10.0	10.6		ug/L		106	70 - 130
1,2,3-Trichlorobenzene	10.0	9.25		ug/L		93	60 - 140
1,2,3-Trichloropropane	10.0	10.2		ug/L		102	63 - 130
1,2,4-Trichlorobenzene	10.0	9.02		ug/L		90	60 - 140
1,2,4-Trimethylbenzene	10.0	10.9		ug/L		109	70 - 135
1,2-Dibromo-3-Chloropropane	10.0	9.50		ug/L		95	52 - 140
1,2-Dibromoethane (EDB)	10.0	10.3		ug/L		103	70 - 130
1,2-Dichlorobenzene	10.0	10.0		ug/L		100	70 - 130
1,2-Dichloroethane	10.0	11.7		ug/L		117	57 - 138
1,2-Dichloropropane	10.0	10.6		ug/L		106	67 - 130
1,3,5-Trimethylbenzene	10.0	10.6		ug/L		106	70 - 136

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-563745/7

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,3-Dichlorobenzene	10.0	10.6		ug/L		106	70 - 130
1,3-Dichloropropane	10.0	9.53		ug/L		95	70 - 130
1,4-Dichlorobenzene	10.0	10.1		ug/L		101	70 - 130
2,2-Dichloropropane	10.0	11.6		ug/L		116	68 - 141
2-Chlorotoluene	10.0	10.4		ug/L		104	70 - 130
4-Chlorotoluene	10.0	9.63		ug/L		96	70 - 130
Acetone	50.0	52.2		ug/L		104	10 - 150
Benzene	10.0	9.95		ug/L		100	68 - 130
Bromobenzene	10.0	10.3		ug/L		103	70 - 130
Bromochloromethane	10.0	10.9		ug/L		109	70 - 130
Bromodichloromethane	10.0	10.5		ug/L		105	70 - 132
Bromoform	10.0	9.79		ug/L		98	60 - 148
Bromomethane	10.0	12.8		ug/L		128	64 - 139
Carbon tetrachloride	10.0	12.1		ug/L		121	60 - 150
Chlorobenzene	10.0	10.4		ug/L		104	70 - 130
Chloroethane	10.0	12.5		ug/L		125	64 - 135
Chloroform	10.0	11.1		ug/L		111	70 - 130
Chloromethane	10.0	10.6		ug/L		106	47 - 140
cis-1,2-Dichloroethene	10.0	10.6		ug/L		106	70 - 133
cis-1,3-Dichloropropene	10.0	10.1		ug/L		101	70 - 133
Dibromochloromethane	10.0	11.5		ug/L		115	69 - 145
Dibromomethane	10.0	11.5		ug/L		115	70 - 130
Dichlorodifluoromethane	10.0	9.94		ug/L		99	29 - 150
Ethylbenzene	10.0	9.81		ug/L		98	70 - 130
Hexachlorobutadiene	10.0	9.00		ug/L		90	10 - 150
Isopropylbenzene	10.0	10.7		ug/L		107	70 - 136
m,p-Xylene	10.0	10.1		ug/L		101	70 - 130
Methylene Chloride	10.0	10.4		ug/L		104	52 - 130
Methyl-t-Butyl Ether (MTBE)	10.0	9.72		ug/L		97	63 - 131
Naphthalene	10.0	9.18		ug/L		92	60 - 140
n-Butylbenzene	10.0	10.0		ug/L		100	65 - 150
N-Propylbenzene	10.0	10.1		ug/L		101	67 - 139
o-Xylene	10.0	10.5		ug/L		105	70 - 130
p-Isopropyltoluene	10.0	10.8		ug/L		108	70 - 132
sec-Butylbenzene	10.0	10.7		ug/L		107	70 - 138
Styrene	10.0	11.7		ug/L		117	70 - 134
tert-Butylbenzene	10.0	11.1		ug/L		111	70 - 130
Tetrachloroethene	10.0	9.85		ug/L		98	70 - 130
Toluene	10.0	9.41		ug/L		94	70 - 130
trans-1,2-Dichloroethene	10.0	10.5		ug/L		105	70 - 130
trans-1,3-Dichloropropene	10.0	10.8		ug/L		108	70 - 132
Trichloroethene	10.0	11.2		ug/L		112	70 - 130
Trichlorofluoromethane	10.0	11.4		ug/L		114	60 - 150
Vinyl chloride	10.0	12.2		ug/L		122	59 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		70 - 130
4-Bromofluorobenzene (Surr)	96		80 - 120

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-563745/7

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
Dibromofluoromethane (Surr)		112			76 - 132
Toluene-d8 (Surr)		92			80 - 128

Lab Sample ID: 440-247942-C-5 MS

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		100	110		ug/L		110	60 - 149
1,1,1-Trichloroethane	ND		100	109		ug/L		109	70 - 130
1,1,2,2-Tetrachloroethane	ND		100	89.6		ug/L		90	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		100	115		ug/L		115	60 - 140
1,1,2-Trichloroethane	ND		100	96.6		ug/L		97	70 - 130
1,1-Dichloroethane	14		100	124		ug/L		110	65 - 130
1,1-Dichloroethene	210		100	289		ug/L		79	70 - 130
1,1-Dichloropropene	ND		100	106		ug/L		106	64 - 130
1,2,3-Trichlorobenzene	ND		100	94.4		ug/L		94	60 - 140
1,2,3-Trichloropropane	ND		100	98.2		ug/L		98	60 - 130
1,2,4-Trichlorobenzene	ND		100	92.4		ug/L		92	60 - 140
1,2,4-Trimethylbenzene	ND		100	102		ug/L		102	70 - 130
1,2-Dibromo-3-Chloropropane	ND		100	95.9		ug/L		96	48 - 140
1,2-Dibromoethane (EDB)	ND		100	103		ug/L		103	70 - 131
1,2-Dichlorobenzene	ND		100	97.3		ug/L		97	70 - 130
1,2-Dichloroethane	ND		100	111		ug/L		111	56 - 146
1,2-Dichloropropane	ND		100	102		ug/L		102	69 - 130
1,3,5-Trimethylbenzene	ND		100	100		ug/L		100	70 - 130
1,3-Dichlorobenzene	ND		100	101		ug/L		101	70 - 130
1,3-Dichloropropane	ND		100	92.5		ug/L		92	70 - 130
1,4-Dichlorobenzene	ND		100	96.9		ug/L		97	70 - 130
2,2-Dichloropropane	ND		100	108		ug/L		108	69 - 138
2-Chlorotoluene	ND		100	95.8		ug/L		96	70 - 130
4-Chlorotoluene	ND		100	94.3		ug/L		94	70 - 130
Acetone	ND		500	434		ug/L		87	10 - 150
Benzene	ND		100	95.0		ug/L		95	66 - 130
Bromobenzene	ND		100	97.3		ug/L		97	70 - 130
Bromochloromethane	ND		100	109		ug/L		109	70 - 130
Bromodichloromethane	ND		100	102		ug/L		102	70 - 138
Bromoform	ND		100	96.2		ug/L		96	59 - 150
Bromomethane	ND		100	118		ug/L		118	62 - 131
Carbon tetrachloride	ND		100	119		ug/L		119	60 - 150
Chlorobenzene	ND		100	104		ug/L		104	70 - 130
Chloroethane	ND		100	125		ug/L		125	68 - 130
Chloroform	ND		100	102		ug/L		102	70 - 130
Chloromethane	ND		100	106		ug/L		106	39 - 144
cis-1,2-Dichloroethene	ND		100	99.9		ug/L		100	70 - 130
cis-1,3-Dichloropropene	ND		100	103		ug/L		103	70 - 133
Dibromochloromethane	ND		100	107		ug/L		107	70 - 148
Dibromomethane	ND		100	107		ug/L		107	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247942-C-5 MS

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	ND		100	86.0		ug/L	86	25 - 142	
Ethylbenzene	ND		100	97.3		ug/L	97	70 - 130	
Hexachlorobutadiene	ND		100	91.4		ug/L	91	10 - 150	
Isopropylbenzene	ND		100	104		ug/L	104	70 - 132	
m,p-Xylene	ND		100	103		ug/L	103	70 - 133	
Methylene Chloride	ND		100	93.1		ug/L	93	52 - 130	
Methyl-t-Butyl Ether (MTBE)	ND		100	91.2		ug/L	91	70 - 130	
Naphthalene	ND		100	91.2		ug/L	91	60 - 140	
n-Butylbenzene	ND		100	96.5		ug/L	96	61 - 149	
N-Propylbenzene	ND		100	92.6		ug/L	93	66 - 135	
o-Xylene	ND		100	105		ug/L	105	70 - 133	
p-Isopropyltoluene	ND		100	102		ug/L	102	70 - 130	
sec-Butylbenzene	ND		100	102		ug/L	102	67 - 134	
Styrene	ND		100	116		ug/L	116	29 - 150	
tert-Butylbenzene	ND		100	101		ug/L	101	70 - 130	
Tetrachloroethene	ND		100	96.6		ug/L	97	70 - 137	
Toluene	ND		100	91.6		ug/L	92	70 - 130	
trans-1,2-Dichloroethene	ND		100	96.0		ug/L	96	70 - 130	
trans-1,3-Dichloropropene	ND		100	102		ug/L	102	70 - 138	
Trichloroethene	ND		100	118		ug/L	118	70 - 130	
Trichlorofluoromethane	ND		100	115		ug/L	115	60 - 150	
Vinyl chloride	ND F1		100	147	F1	ug/L	147	50 - 137	
MS MS									
Surrogate	%Recovery	Qualifier		Limits					
1,2-Dichloroethane-d4 (Surr)	112			70 - 130					
4-Bromofluorobenzene (Surr)	94			80 - 120					
Dibromofluoromethane (Surr)	113			76 - 132					
Toluene-d8 (Surr)	98			80 - 128					

Lab Sample ID: 440-247942-C-5 MSD

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		100	115		ug/L	115	60 - 149		5	20
1,1,1-Trichloroethane	ND		100	109		ug/L	109	70 - 130		0	20
1,1,2,2-Tetrachloroethane	ND		100	96.8		ug/L	97	63 - 130		8	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		100	109		ug/L	109	60 - 140		6	20
1,1,2-Trichloroethane	ND		100	100		ug/L	100	70 - 130		4	25
1,1-Dichloroethane	14		100	121		ug/L	106	65 - 130		3	20
1,1-Dichloroethene	210		100	290		ug/L	80	70 - 130		0	20
1,1-Dichloropropene	ND		100	106		ug/L	106	64 - 130		0	20
1,2,3-Trichlorobenzene	ND		100	101		ug/L	101	60 - 140		7	20
1,2,3-Trichloropropane	ND		100	115		ug/L	115	60 - 130		16	30
1,2,4-Trichlorobenzene	ND		100	99.9		ug/L	100	60 - 140		8	20
1,2,4-Trimethylbenzene	ND		100	103		ug/L	103	70 - 130		1	25
1,2-Dibromo-3-Chloropropane	ND		100	106		ug/L	106	48 - 140		10	30
1,2-Dibromoethane (EDB)	ND		100	111		ug/L	111	70 - 131		8	25

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247942-C-5 MSD

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	Limits	RPD	RPD Limit
1,2-Dichlorobenzene	ND		100	96.8		ug/L	97	70 - 130		1	20
1,2-Dichloroethane	ND		100	117		ug/L	117	56 - 146		5	20
1,2-Dichloropropane	ND		100	97.0		ug/L	97	69 - 130		5	20
1,3,5-Trimethylbenzene	ND		100	97.9		ug/L	98	70 - 130		2	20
1,3-Dichlorobenzene	ND		100	103		ug/L	103	70 - 130		2	20
1,3-Dichloropropane	ND		100	101		ug/L	101	70 - 130		9	25
1,4-Dichlorobenzene	ND		100	97.3		ug/L	97	70 - 130		0	20
2,2-Dichloropropane	ND		100	114		ug/L	114	69 - 138		5	25
2-Chlorotoluene	ND		100	93.8		ug/L	94	70 - 130		2	20
4-Chlorotoluene	ND		100	95.4		ug/L	95	70 - 130		1	20
Acetone	ND		500	543		ug/L	109	10 - 150		22	35
Benzene	ND		100	98.7		ug/L	99	66 - 130		4	20
Bromobenzene	ND		100	96.9		ug/L	97	70 - 130		0	20
Bromochloromethane	ND		100	114		ug/L	114	70 - 130		5	25
Bromodichloromethane	ND		100	100		ug/L	100	70 - 138		2	20
Bromoform	ND		100	108		ug/L	108	59 - 150		11	25
Bromomethane	ND		100	120		ug/L	120	62 - 131		2	25
Carbon tetrachloride	ND		100	119		ug/L	119	60 - 150		0	25
Chlorobenzene	ND		100	105		ug/L	105	70 - 130		2	20
Chloroethane	ND		100	121		ug/L	121	68 - 130		3	25
Chloroform	ND		100	105		ug/L	105	70 - 130		3	20
Chloromethane	ND		100	100		ug/L	100	39 - 144		5	25
cis-1,2-Dichloroethene	ND		100	109		ug/L	109	70 - 130		8	20
cis-1,3-Dichloropropene	ND		100	105		ug/L	105	70 - 133		2	20
Dibromochloromethane	ND		100	123		ug/L	123	70 - 148		14	25
Dibromomethane	ND		100	109		ug/L	109	70 - 130		2	25
Dichlorodifluoromethane	ND		100	85.5		ug/L	85	25 - 142		1	30
Ethylbenzene	ND		100	98.0		ug/L	98	70 - 130		1	20
Hexachlorobutadiene	ND		100	90.9		ug/L	91	10 - 150		1	20
Isopropylbenzene	ND		100	106		ug/L	106	70 - 132		2	20
m,p-Xylene	ND		100	103		ug/L	103	70 - 133		0	25
Methylene Chloride	ND		100	99.9		ug/L	100	52 - 130		7	20
Methyl-t-Butyl Ether (MTBE)	ND		100	99.9		ug/L	100	70 - 130		9	25
Naphthalene	ND		100	103		ug/L	103	60 - 140		12	30
n-Butylbenzene	ND		100	95.4		ug/L	95	61 - 149		1	20
N-Propylbenzene	ND		100	92.2		ug/L	92	66 - 135		0	20
o-Xylene	ND		100	109		ug/L	109	70 - 133		5	20
p-Isopropyltoluene	ND		100	103		ug/L	103	70 - 130		1	20
sec-Butylbenzene	ND		100	101		ug/L	101	67 - 134		1	20
Styrene	ND		100	123		ug/L	123	29 - 150		6	35
tert-Butylbenzene	ND		100	101		ug/L	101	70 - 130		0	20
Tetrachloroethene	ND		100	96.3		ug/L	96	70 - 137		0	20
Toluene	ND		100	91.9		ug/L	92	70 - 130		0	20
trans-1,2-Dichloroethene	ND		100	98.0		ug/L	98	70 - 130		2	20
trans-1,3-Dichloropropene	ND		100	110		ug/L	110	70 - 138		8	25
Trichloroethene	ND		100	113		ug/L	113	70 - 130		5	20
Trichlorofluoromethane	ND		100	111		ug/L	111	60 - 150		3	25
Vinyl chloride	ND F1		100	141	F1	ug/L	141	50 - 137		4	30

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247942-C-5 MSD

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Surrogate	MSD	MSD	
	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	116		70 - 130
4-Bromofluorobenzene (Surr)	92		80 - 120
Dibromofluoromethane (Surr)	113		76 - 132
Toluene-d8 (Surr)	97		80 - 128

Lab Sample ID: MB 440-565761/4

Matrix: Water

Analysis Batch: 565761

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB							
	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/27/19 20:44	1
Tentatively Identified Compound	MB	MB							
	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
1,3,5-Trichlorobenzene	1.05		ug/L		13.29	108-70-3		08/27/19 20:44	1
Tentatively Identified Compound	None		ug/L					08/27/19 20:44	1
Surrogate	MB	MB					Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	93		70 - 130					08/27/19 20:44	1
4-Bromofluorobenzene (Surr)	94		80 - 120					08/27/19 20:44	1
Dibromofluoromethane (Surr)	97		76 - 132					08/27/19 20:44	1
Toluene-d8 (Surr)	100		80 - 128					08/27/19 20:44	1

Lab Sample ID: LCS 440-565761/1003

Matrix: Water

Analysis Batch: 565761

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS		%Rec.			
	Added	Result	Qualifier	Unit	D	%Rec	Limits
Isopropyl alcohol	250	264		ug/L		105	49 - 142
LCS LCS							
Surrogate							
Surrogate	%Recovery	Qualifier	Limits				
	90		70 - 130				
1,2-Dichloroethane-d4 (Surr)	97		80 - 120				
4-Bromofluorobenzene (Surr)	100		76 - 132				
Toluene-d8 (Surr)	100		80 - 128				

Lab Sample ID: 440-248097-1 MS

Matrix: Water

Analysis Batch: 565761

Client Sample ID: OC_GW_OW-12_20190815N
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	%Rec.			
	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits
Isopropyl alcohol	ND		250	256		ug/L		103	46 - 142
MS MS									
Surrogate									
Surrogate	%Recovery	Qualifier	Limits						
	94		70 - 130						
1,2-Dichloroethane-d4 (Surr)	101		80 - 120						
4-Bromofluorobenzene (Surr)	99		76 - 132						
Toluene-d8 (Surr)	97		80 - 128						

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: 440-248097-1 MSD

Matrix: Water

Analysis Batch: 565761

Client Sample ID: OC_GW_OW-12_20190815N

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	Limits	RPD	RPD Limit
Isopropyl alcohol	ND		250	232	J	ug/L		93	46 - 142	10	40
Surrogate	MSD %Recovery	MSD Qualifier		MSD	MSD				Limits		
1,2-Dichloroethane-d4 (Surr)	93			70 - 130							
4-Bromofluorobenzene (Surr)	97			80 - 120							
Dibromofluoromethane (Surr)	97			76 - 132							
Toluene-d8 (Surr)	99			80 - 128							

QC Association Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 563745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248097-1	OC_GW_OW-12_20190815N	Total/NA	Water	8260B	1
440-248097-2	OC_TB1_20190815	Total/NA	Water	8260B	2
MB 440-563745/5	Method Blank	Total/NA	Water	8260B	3
LCS 440-563745/7	Lab Control Sample	Total/NA	Water	8260B	4
440-247942-C-5 MS	Matrix Spike	Total/NA	Water	8260B	5
440-247942-C-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	6

Analysis Batch: 565761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248097-1 - RA	OC_GW_OW-12_20190815N	Total/NA	Water	8260B	7
440-248097-2 - RA	OC_TB1_20190815	Total/NA	Water	8260B	8
MB 440-565761/4	Method Blank	Total/NA	Water	8260B	9
LCS 440-565761/1003	Lab Control Sample	Total/NA	Water	8260B	10
440-248097-1 MS	OC_GW_OW-12_20190815N	Total/NA	Water	8260B	11
440-248097-1 MSD	OC_GW_OW-12_20190815N	Total/NA	Water	8260B	12

Definitions/Glossary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248097-1

SDG: Omega Chemical

Laboratory: Eurofins TestAmerica, Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State Program	CA ELAP 2706	06-30-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene



TestAmerica Laboratories, Inc.
THE LEADER IN ENVIRONMENTAL TESTING

Chain of Custody Record

TestAmerica Irvine

117461 Denian Ave
Suite 100
Irvine, CA 92614

phone 949.261.1022 fax

TestAmerica Laboratories, Inc.																																																							
phone 949.261.1022 fax																																																							
Client Contact		Project Manager: Trent Henderson Tel/Fax: (949) 453-045 / (949) 453-1047 Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below _____ STD <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day																																																					
De Maximis - Jaime Dinsilio 1322 Scott St., Suite 104 San Diego, CA 92106 (562) 756-8149		Site Contact: Khalid Azhar Lab Contact: Danielle Roberts Carrier: _____ COC No: <u>1</u> of <u>1</u> COCs Sampler: _____ For Lab Use Only: Walk-in Client. Lab Sampling: Job / SDG No.: _____																																																					
Project Name: Omega Chem - 2019 Semi-Ann. GWM Feb Site, Omega Chemical P O #: 3139GE742		EPA 8270C - 1A, Dioxane EPA 8260B - VOCs + Fugants Perfomr MS / MSD (Y/N) Tilteted Sample (Y/N) Sample Specific Notes:  440-248097 Chain of Custody																																																					
<table border="1"> <thead> <tr> <th>Sample Identification</th> <th>Sample Date</th> <th>Sample Time</th> <th>Sample Type (g=Comb, o=Env)</th> <th>Matrix</th> <th># of Cont</th> </tr> </thead> <tbody> <tr> <td>OC_GW_OW_12N_20190815</td> <td>8/15/2019</td> <td>1420</td> <td>Grab</td> <td>GW</td> <td>13</td> </tr> <tr> <td>OC_GW_OW_201908</td> <td>8/ /2019</td> <td></td> <td>Grab</td> <td>GW</td> <td>5</td> </tr> <tr> <td>OC_GW_OW_201908</td> <td>8/ /2019</td> <td></td> <td>Grab</td> <td>GW</td> <td>5</td> </tr> <tr> <td>OC_GW_OW_201908</td> <td>8/ /2019</td> <td></td> <td>Grab</td> <td>GW</td> <td>5</td> </tr> <tr> <td>OC_TB_1_20190815</td> <td>8/15/2019</td> <td>0700</td> <td>Grab</td> <td>H2O</td> <td>2</td> </tr> <tr> <td>OC_TB_201908</td> <td>8/ /2019</td> <td></td> <td>Grab</td> <td>H2O</td> <td>2</td> </tr> <tr> <td>OC_TB_201908</td> <td>8/ /2019</td> <td></td> <td>Grab</td> <td>H2O</td> <td>2</td> </tr> </tbody> </table>								Sample Identification	Sample Date	Sample Time	Sample Type (g=Comb, o=Env)	Matrix	# of Cont	OC_GW_OW_12N_20190815	8/15/2019	1420	Grab	GW	13	OC_GW_OW_201908	8/ /2019		Grab	GW	5	OC_GW_OW_201908	8/ /2019		Grab	GW	5	OC_GW_OW_201908	8/ /2019		Grab	GW	5	OC_TB_1_20190815	8/15/2019	0700	Grab	H2O	2	OC_TB_201908	8/ /2019		Grab	H2O	2	OC_TB_201908	8/ /2019		Grab	H2O	2
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OC_TB_201908	8/ /2019		Grab	H2O	2																																																		
OC_TB_201908	8/ /2019		Grab	H2O	2																																																		
Preservation Used: 1= Ice; 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____ Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please list any EPA Waste Codes for the sample in the comments section if this lab is to dispose of the sample <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown																																																							
Special Instructions/QC Requirements & Comments: VOC, gaseous only per 0C-603-002-12 N-20190815																																																							
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No Relinquished by: <u>JG</u>		43509 Company: <u>TAA</u>		Date/Time: <u>8/15/19</u> Received By: <u>JG</u> Date/Time: <u>8/15/19</u> Received By: <u>JG</u>		Cooler Temp. (°C): <u>-2</u> Obsd: <u>+</u> Company: <u>TAA-12V</u>																																																	
Relinquished by: <u>JG</u>		Company: <u>TAA-12V</u>		Date/Time: <u>8/15/19</u> Received By: <u>JG</u> Date/Time: <u>8/15/19</u> Received By: <u>JG</u>		Company: <u>TAA-12V</u> Date/Time: <u>8/15/19</u> Archive for: <u>Months</u>																																																	
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months																																																							
<u>8/15/19 AK</u>																																																							

Temp 5.1/5.3
RH 15%
Bar 1018.8

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TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
phone 949.261.1022 fax

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: PW NPDES RCRA Other:

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C. Job Number: 440-248097-1
SDG Number: Omega Chemical

Login Number: 248097

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True		
The cooler's custody seal, if present, is intact.	N/A	Not present	
Sample custody seals, if present, are intact.	N/A	Not Present	
The cooler or samples do not appear to have been compromised or tampered with.	True		
Samples were received on ice.	True		
Cooler Temperature is acceptable.	True		
Cooler Temperature is recorded.	True		
COC is present.	True		
COC is filled out in ink and legible.	True		
COC is filled out with all pertinent information.	True		
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.	
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		



Environment Testing
TestAmerica

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ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-248098-1

Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chem.-2019 Semi-Ann. GWM

For:

Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson

Danielle Roberts

Authorized for release by:
8/30/2019 12:55:45 PM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-248098-1	OC_GW_EW-1_20190815	Water	08/15/19 12:30	08/15/19 15:45	
440-248098-2	OC_GW_EW-3_20190815	Water	08/15/19 12:56	08/15/19 15:45	
440-248098-3	OC_GW_EW-4_20190815	Water	08/15/19 13:11	08/15/19 15:45	
440-248098-4	OC_GW_EW-5_20190815	Water	08/15/19 13:26	08/15/19 15:45	

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Case Narrative

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1
SDG: Omega Chemical

Job ID: 440-248098-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-248098-1

Comments

No additional comments.

Receipt

The samples were received on 8/15/2019 3:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 5.2° C and 5.3° C.

GC/MS VOA

Method(s) 8260B: Surrogate recovery was outside acceptance limits for the following matrix spike (MS) sample: (440-248100-A-6 MS). The MSD and parent sample's surrogate recovery was within limits. The MS sample has been qualified and reported. Matrix interference is suspected.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-563962 recovered above the upper control limit for Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: OC_GW_EW-1_20190815 (440-248098-1) and (CCVIS 440-563962/2).

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 440-563962 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS) was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-564093. LCS was performed in duplicate to provide precision of data.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Client Sample ID: OC_GW_EW-1_20190815

Lab Sample ID: 440-248098-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	61		5.0	0.50	ug/L	1		8260B	Total/NA
1,1,2-Trichloroethane	0.33	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.38	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	10		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	1.5		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	14		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	13		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	250		5.0	1.3	ug/L	5		8260B	Total/NA
Trichloroethene - RA	26	F1	1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	14		0.51	0.10	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_EW-3_20190815

Lab Sample ID: 440-248098-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	6.1		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	7.7		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	0.54	J	1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	13		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	1.8		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	3.3		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.67		0.53	0.11	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_EW-4_20190815

Lab Sample ID: 440-248098-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	1.3	J	5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	2.0		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	3.4		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	0.44	J	1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	0.79	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.66		0.51	0.10	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_EW-5_20190815

Lab Sample ID: 440-248098-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	42		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	11		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	0.27	J	1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	9.9		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	1.5		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	25		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.15	J	0.51	0.10	ug/L	1		8270C SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Client Sample ID: OC_GW_EW-1_20190815

Lab Sample ID: 440-248098-1

Matrix: Water

Date Collected: 08/15/19 12:30

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/19/19 14:53	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/19/19 14:53	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/19/19 14:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	61		5.0	0.50	ug/L			08/19/19 14:53	1
1,1,2-Trichloroethane	0.33 J		1.0	0.25	ug/L			08/19/19 14:53	1
1,1-Dichloroethane	0.38 J		1.0	0.25	ug/L			08/19/19 14:53	1
1,1-Dichloroethene	10		1.0	0.25	ug/L			08/19/19 14:53	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/19/19 14:53	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/19/19 14:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/19/19 14:53	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/19/19 14:53	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/19/19 14:53	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
1,2-Dichloroethane	1.5		1.0	0.25	ug/L			08/19/19 14:53	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/19/19 14:53	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/19/19 14:53	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/19/19 14:53	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
Acetone	ND		10	10	ug/L			08/19/19 14:53	1
Benzene	ND		0.50	0.25	ug/L			08/19/19 14:53	1
Bromobenzene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/19/19 14:53	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/19/19 14:53	1
Bromoform	ND		1.0	0.40	ug/L			08/19/19 14:53	1
Bromomethane	ND		1.0	0.25	ug/L			08/19/19 14:53	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/19/19 14:53	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
Chloroethane	ND		1.0	0.40	ug/L			08/19/19 14:53	1
Chloroform	14		1.0	0.25	ug/L			08/19/19 14:53	1
Chloromethane	ND		1.0	0.25	ug/L			08/19/19 14:53	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/19/19 14:53	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/19/19 14:53	1
Dibromomethane	ND		1.0	0.25	ug/L			08/19/19 14:53	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/19/19 14:53	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/19/19 14:53	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/19/19 14:53	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/19/19 14:53	1
Naphthalene	ND		1.0	0.40	ug/L			08/19/19 14:53	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/19/19 14:53	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Client Sample ID: OC_GW_EW-1_20190815

Lab Sample ID: 440-248098-1

Matrix: Water

Date Collected: 08/15/19 12:30

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
o-Xylene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
Styrene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
Toluene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 14:53	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/19/19 14:53	1
Trichlorofluoromethane	13		1.0	0.25	ug/L			08/19/19 14:53	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/19/19 14:53	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	5.4	T J	ug/L		2.97			08/19/19 14:53	1
Unknown	2.5	T J	ug/L		14.22			08/19/19 14:53	1
Surrogate									
%Recovery Qualifier Limits									
1,2-Dichloroethane-d4 (Surr)									
99 70 - 130									
4-Bromofluorobenzene (Surr)									
87 80 - 120									
Dibromofluoromethane (Surr)									
115 76 - 132									
Toluene-d8 (Surr)									
122 80 - 128									

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	250		5.0	1.3	ug/L			08/20/19 11:09	5
Tentatively Identified Compound									
Est. Result Qualifier Unit D RT CAS No. Prepared Analyzed Dil Fac									
Unknown 1100 T J ug/L 2.25 08/20/19 11:09 5									
Unknown 14 T J ug/L 2.96 08/20/19 11:09 5									
Unknown 95 T J ug/L 14.45 08/20/19 11:09 5									
Surrogate									
%Recovery Qualifier Limits									
1,2-Dichloroethane-d4 (Surr) 81 70 - 130 08/20/19 11:09 5									
4-Bromofluorobenzene (Surr) 91 80 - 120 08/20/19 11:09 5									
Dibromofluoromethane (Surr) 92 76 - 132 08/20/19 11:09 5									
Toluene-d8 (Surr) 107 80 - 128 08/20/19 11:09 5									

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/20/19 09:47	1
Trichloroethene	26	F1		1.0	0.25 ug/L			08/20/19 09:47	1
Tentatively Identified Compound									
Est. Result Qualifier Unit D RT CAS No. Prepared Analyzed Dil Fac									
Unknown 3.1 T J ug/L 2.96 08/20/19 09:47 1									
Unknown 30 T J ug/L 14.45 08/20/19 09:47 1									
Surrogate									
%Recovery Qualifier Limits									
1,2-Dichloroethane-d4 (Surr) 91 70 - 130 08/20/19 09:47 1									
4-Bromofluorobenzene (Surr) 95 80 - 120 08/20/19 09:47 1									
Dibromofluoromethane (Surr) 113 76 - 132 08/20/19 09:47 1									
Toluene-d8 (Surr) 86 80 - 128 08/20/19 09:47 1									

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Client Sample ID: OC_GW_EW-1_20190815

Lab Sample ID: 440-248098-1

Matrix: Water

Date Collected: 08/15/19 12:30

Date Received: 08/15/19 15:45

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	14		0.51	0.10	ug/L		08/19/19 13:18	08/20/19 13:19	1
Surrogate	%Recovery	Qualifier		Limits			Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	46			27 - 120			08/19/19 13:18	08/20/19 13:19	1

Client Sample ID: OC_GW_EW-3_20190815

Lab Sample ID: 440-248098-2

Matrix: Water

Date Collected: 08/15/19 12:56

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/16/19 23:49	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/16/19 23:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/16/19 23:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	6.1		5.0	0.50	ug/L			08/16/19 23:49	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/16/19 23:49	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/16/19 23:49	1
1,1-Dichloroethene	7.7		1.0	0.25	ug/L			08/16/19 23:49	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/16/19 23:49	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/16/19 23:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/16/19 23:49	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/16/19 23:49	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/16/19 23:49	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/16/19 23:49	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/16/19 23:49	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/16/19 23:49	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/16/19 23:49	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
Acetone	ND		10	10	ug/L			08/16/19 23:49	1
Benzene	ND		0.50	0.25	ug/L			08/16/19 23:49	1
Bromobenzene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/16/19 23:49	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/16/19 23:49	1
Bromoform	ND		1.0	0.40	ug/L			08/16/19 23:49	1
Bromomethane	ND		1.0	0.25	ug/L			08/16/19 23:49	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/16/19 23:49	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
Chloroethane	ND		1.0	0.40	ug/L			08/16/19 23:49	1
Chloroform	0.54 J		1.0	0.25	ug/L			08/16/19 23:49	1
Chloromethane	ND		1.0	0.25	ug/L			08/16/19 23:49	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/16/19 23:49	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Client Sample ID: OC_GW_EW-3_20190815

Lab Sample ID: 440-248098-2

Matrix: Water

Date Collected: 08/15/19 12:56

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	ND		1.0	0.25	ug/L			08/16/19 23:49	1
Dibromomethane	ND		1.0	0.25	ug/L			08/16/19 23:49	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/16/19 23:49	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/16/19 23:49	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/16/19 23:49	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/16/19 23:49	1
Naphthalene	ND		1.0	0.40	ug/L			08/16/19 23:49	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/16/19 23:49	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
o-Xylene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
Styrene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
Tetrachloroethene	13		1.0	0.25	ug/L			08/16/19 23:49	1
Toluene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 23:49	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/16/19 23:49	1
Trichloroethene	1.8		1.0	0.25	ug/L			08/16/19 23:49	1
Trichlorofluoromethane	3.3		1.0	0.25	ug/L			08/16/19 23:49	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/16/19 23:49	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/16/19 23:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		70 - 130		08/16/19 23:49	1
4-Bromofluorobenzene (Surr)	95		80 - 120		08/16/19 23:49	1
Dibromofluoromethane (Surr)	117		76 - 132		08/16/19 23:49	1
Toluene-d8 (Surr)	95		80 - 128		08/16/19 23:49	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/27/19 23:31	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/27/19 23:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		70 - 130		08/27/19 23:31	1
4-Bromofluorobenzene (Surr)	99		80 - 120		08/27/19 23:31	1
Dibromofluoromethane (Surr)	98		76 - 132		08/27/19 23:31	1
Toluene-d8 (Surr)	98		80 - 128		08/27/19 23:31	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.67		0.53	0.11	ug/L		08/19/19 13:18	08/20/19 13:41	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_EW-3_20190815

Lab Sample ID: 440-248098-2

Matrix: Water

Date Collected: 08/15/19 12:56
 Date Received: 08/15/19 15:45

Surrogate	%Recovery	Qualifier	Limits
1,4-Dioxane-d8 (Surr)	43		27 - 120

Prepared Analyzed Dil Fac
 08/19/19 13:18 08/20/19 13:41 1

Client Sample ID: OC_GW_EW-4_20190815

Lab Sample ID: 440-248098-3

Matrix: Water

Date Collected: 08/15/19 13:11
 Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/17/19 00:15	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/17/19 00:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/17/19 00:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.3	J	5.0	0.50	ug/L			08/17/19 00:15	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/17/19 00:15	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/17/19 00:15	1
1,1-Dichloroethene	2.0		1.0	0.25	ug/L			08/17/19 00:15	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/17/19 00:15	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/17/19 00:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/17/19 00:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/17/19 00:15	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/17/19 00:15	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/17/19 00:15	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/17/19 00:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/17/19 00:15	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/17/19 00:15	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
Acetone	ND		10	10	ug/L			08/17/19 00:15	1
Benzene	ND		0.50	0.25	ug/L			08/17/19 00:15	1
Bromobenzene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/17/19 00:15	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/17/19 00:15	1
Bromoform	ND		1.0	0.40	ug/L			08/17/19 00:15	1
Bromomethane	ND		1.0	0.25	ug/L			08/17/19 00:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/17/19 00:15	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
Chloroethane	ND		1.0	0.40	ug/L			08/17/19 00:15	1
Chloroform	ND		1.0	0.25	ug/L			08/17/19 00:15	1
Chloromethane	ND		1.0	0.25	ug/L			08/17/19 00:15	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 00:15	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/17/19 00:15	1
Dibromomethane	ND		1.0	0.25	ug/L			08/17/19 00:15	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/17/19 00:15	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/17/19 00:15	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Client Sample ID: OC_GW_EW-4_20190815

Lab Sample ID: 440-248098-3

Matrix: Water

Date Collected: 08/15/19 13:11

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/17/19 00:15	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/17/19 00:15	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/17/19 00:15	1
Naphthalene	ND		1.0	0.40	ug/L			08/17/19 00:15	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/17/19 00:15	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
o-Xylene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
Styrene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
Tetrachloroethene	3.4		1.0	0.25	ug/L			08/17/19 00:15	1
Toluene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 00:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 00:15	1
Trichloroethene	0.44 J		1.0	0.25	ug/L			08/17/19 00:15	1
Trichlorofluoromethane	0.79 J		1.0	0.25	ug/L			08/17/19 00:15	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/17/19 00:15	1

Tentatively Identified Compound

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
			ug/L						

Surrogate

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		70 - 130		08/17/19 00:15	1
4-Bromofluorobenzene (Surr)	102		80 - 120		08/17/19 00:15	1
Dibromofluoromethane (Surr)	117		76 - 132		08/17/19 00:15	1
Toluene-d8 (Surr)	96		80 - 128		08/17/19 00:15	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/27/19 23:58	1

Tentatively Identified Compound

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
			ug/L						

Surrogate

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 130		08/27/19 23:58	1
4-Bromofluorobenzene (Surr)	99		80 - 120		08/27/19 23:58	1
Dibromofluoromethane (Surr)	102		76 - 132		08/27/19 23:58	1
Toluene-d8 (Surr)	100		80 - 128		08/27/19 23:58	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.66		0.51	0.10	ug/L		08/19/19 13:18	08/20/19 14:02	1

Surrogate

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	55		27 - 120	08/19/19 13:18	08/20/19 14:02	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_EW-5_20190815

Lab Sample ID: 440-248098-4

Matrix: Water

Date Collected: 08/15/19 13:26
 Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/17/19 00:42	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/17/19 00:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/17/19 00:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	42		5.0	0.50	ug/L			08/17/19 00:42	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/17/19 00:42	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/17/19 00:42	1
1,1-Dichloroethene	11		1.0	0.25	ug/L			08/17/19 00:42	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/17/19 00:42	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/17/19 00:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/17/19 00:42	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/17/19 00:42	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/17/19 00:42	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/17/19 00:42	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/17/19 00:42	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/17/19 00:42	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/17/19 00:42	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
Acetone	ND		10	10	ug/L			08/17/19 00:42	1
Benzene	ND		0.50	0.25	ug/L			08/17/19 00:42	1
Bromobenzene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/17/19 00:42	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/17/19 00:42	1
Bromoform	ND		1.0	0.40	ug/L			08/17/19 00:42	1
Bromomethane	ND		1.0	0.25	ug/L			08/17/19 00:42	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/17/19 00:42	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
Chloroethane	ND		1.0	0.40	ug/L			08/17/19 00:42	1
Chloroform	0.27 J		1.0	0.25	ug/L			08/17/19 00:42	1
Chloromethane	ND		1.0	0.25	ug/L			08/17/19 00:42	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 00:42	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/17/19 00:42	1
Dibromomethane	ND		1.0	0.25	ug/L			08/17/19 00:42	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/17/19 00:42	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/17/19 00:42	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/17/19 00:42	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/17/19 00:42	1
Naphthalene	ND		1.0	0.40	ug/L			08/17/19 00:42	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/17/19 00:42	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Client Sample ID: OC_GW_EW-5_20190815

Lab Sample ID: 440-248098-4

Matrix: Water

Date Collected: 08/15/19 13:26

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
o-Xylene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
Styrene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
Tetrachloroethene	9.9		1.0	0.25	ug/L			08/17/19 00:42	1
Toluene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 00:42	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 00:42	1
Trichloroethene	1.5		1.0	0.25	ug/L			08/17/19 00:42	1
Trichlorofluoromethane	25		1.0	0.25	ug/L			08/17/19 00:42	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/17/19 00:42	1

Tentatively Identified Compound

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/17/19 00:42	1

Surrogate

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		70 - 130		08/17/19 00:42	1
4-Bromofluorobenzene (Surr)	95		80 - 120		08/17/19 00:42	1
Dibromofluoromethane (Surr)	115		76 - 132		08/17/19 00:42	1
Toluene-d8 (Surr)	96		80 - 128		08/17/19 00:42	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/28/19 00:24	1

Tentatively Identified Compound

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/28/19 00:24	1

Surrogate

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 130		08/28/19 00:24	1
4-Bromofluorobenzene (Surr)	98		80 - 120		08/28/19 00:24	1
Dibromofluoromethane (Surr)	97		76 - 132		08/28/19 00:24	1
Toluene-d8 (Surr)	100		80 - 128		08/28/19 00:24	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.15	J	0.51	0.10	ug/L		08/19/19 13:18	08/20/19 14:24	1

Surrogate

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	55		27 - 120	08/19/19 13:18	08/20/19 14:24	1

Eurofins TestAmerica, Irvine

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-247942-C-5 MS	Matrix Spike	112	94	113	98
440-247942-C-5 MSD	Matrix Spike Duplicate	116	92	113	97
440-248097-A-1 MS	Matrix Spike	94	101	99	97
440-248097-A-1 MSD	Matrix Spike Duplicate	93	97	97	99
440-248098-1	OC_GW_EW-1_20190815	99	87	115	122
440-248098-1 - DL	OC_GW_EW-1_20190815	81	91	92	107
440-248098-1 - RA	OC_GW_EW-1_20190815	91	95	113	86
440-248098-1 MS	OC_GW_EW-1_20190815	76	95	96	105
440-248098-1 MSD	OC_GW_EW-1_20190815	71	100	92	100
440-248098-2	OC_GW_EW-3_20190815	121	95	117	95
440-248098-2 - RA	OC_GW_EW-3_20190815	90	99	98	98
440-248098-3	OC_GW_EW-4_20190815	121	102	117	96
440-248098-3 - RA	OC_GW_EW-4_20190815	93	99	102	100
440-248098-4	OC_GW_EW-5_20190815	120	95	115	96
440-248098-4 - RA	OC_GW_EW-5_20190815	91	98	97	100
440-248100-A-6 MS	Matrix Spike	101	94	118	78 X
440-248100-A-6 MSD	Matrix Spike Duplicate	97	102	107	98
LCS 440-563745/7	Lab Control Sample	111	96	112	92
LCS 440-563962/5	Lab Control Sample	90	98	115	104
LCS 440-564207/1003	Lab Control Sample	82	96	99	105
LCS 440-564207/5	Lab Control Sample	86	82	103	100
LCS 440-565761/1003	Lab Control Sample	90	97	100	100
LCSD 440-564207/6	Lab Control Sample Dup	83	90	89	94
MB 440-563745/5	Method Blank	114	96	112	99
MB 440-563962/4	Method Blank	94	106	121	89
MB 440-564207/4	Method Blank	81	108	80	104
MB 440-565761/4	Method Blank	93	94	97	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DXE (27-120)			
440-248098-1	OC_GW_EW-1_20190815	46			
440-248098-2	OC_GW_EW-3_20190815	43			
440-248098-3	OC_GW_EW-4_20190815	55			
440-248098-4	OC_GW_EW-5_20190815	55			
LCS 440-564093/2-A	Lab Control Sample	60			
LCSD 440-564093/3-A	Lab Control Sample Dup	61			
MB 440-564093/1-A	Method Blank	57			

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Eurofins TestAmerica, Irvine

Method Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_EW-1_20190815

Lab Sample ID: 440-248098-1

Matrix: Water

Date Collected: 08/15/19 12:30

Date Received: 08/15/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563962	08/19/19 14:53	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	564207	08/20/19 09:47	JB	TAL IRV
Total/NA	Analysis	8260B	DL	5	10 mL	10 mL	564207	08/20/19 11:09	JB	TAL IRV
Total/NA	Prep	3520C			975 mL	1.0 mL	564093	08/19/19 13:18	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564299	08/20/19 13:19	HN	TAL IRV

Client Sample ID: OC_GW_EW-3_20190815

Lab Sample ID: 440-248098-2

Matrix: Water

Date Collected: 08/15/19 12:56

Date Received: 08/15/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563745	08/16/19 23:49	GMA	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565761	08/27/19 23:31	WC	TAL IRV
Total/NA	Prep	3520C			940 mL	1.0 mL	564093	08/19/19 13:18	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564299	08/20/19 13:41	HN	TAL IRV

Client Sample ID: OC_GW_EW-4_20190815

Lab Sample ID: 440-248098-3

Matrix: Water

Date Collected: 08/15/19 13:11

Date Received: 08/15/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563745	08/17/19 00:15	GMA	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565761	08/27/19 23:58	WC	TAL IRV
Total/NA	Prep	3520C			990 mL	1.0 mL	564093	08/19/19 13:18	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564299	08/20/19 14:02	HN	TAL IRV

Client Sample ID: OC_GW_EW-5_20190815

Lab Sample ID: 440-248098-4

Matrix: Water

Date Collected: 08/15/19 13:26

Date Received: 08/15/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563745	08/17/19 00:42	GMA	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565761	08/28/19 00:24	WC	TAL IRV
Total/NA	Prep	3520C			990 mL	1.0 mL	564093	08/19/19 13:18	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564299	08/20/19 14:24	HN	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-563745/5

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/16/19 19:25	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/16/19 19:25	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/16/19 19:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/16/19 19:25	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/16/19 19:25	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/16/19 19:25	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Acetone	ND		10	10	ug/L			08/16/19 19:25	1
Benzene	ND		0.50	0.25	ug/L			08/16/19 19:25	1
Bromobenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Bromoform	ND		1.0	0.40	ug/L			08/16/19 19:25	1
Bromomethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/16/19 19:25	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Chloroethane	ND		1.0	0.40	ug/L			08/16/19 19:25	1
Chloroform	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Chloromethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/16/19 19:25	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Dibromomethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/16/19 19:25	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/16/19 19:25	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/16/19 19:25	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Naphthalene	ND		1.0	0.40	ug/L			08/16/19 19:25	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-563745/5

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
	Result	Qualifier								
n-Butylbenzene	ND		1.0	0.40	ug/L			08/16/19 19:25	1	
N-Propylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
o-Xylene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
Styrene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
Tetrachloroethene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
Toluene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/16/19 19:25	1	
Trichloroethene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
Vinyl chloride	ND		0.50	0.25	ug/L			08/16/19 19:25	1	
<hr/>										
Tentatively Identified Compound		MB	MB	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Tentatively Identified Compound</i>		Est. Result	Qualifier							
		None		ug/L					08/16/19 19:25	1
<hr/>										
Surrogate		MB	MB	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)		114		70 - 130						
4-Bromofluorobenzene (Surr)		96		80 - 120						
Dibromofluoromethane (Surr)		112		76 - 132						
Toluene-d8 (Surr)		99		80 - 128						

Lab Sample ID: LCS 440-563745/7

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCN	LCN	Unit	D	%Rec	%Rec.	Limits
		Result	Qualifier					
1,1,1-Trichloroethane	10.0	10.9		ug/L		109	70 - 130	
1,1,2,2-Tetrachloroethane	10.0	9.34		ug/L		93	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	12.0		ug/L		120	60 - 140	
1,1,2-Trichloroethane	10.0	9.44		ug/L		94	70 - 130	
1,1-Dichloroethane	10.0	11.2		ug/L		112	64 - 130	
1,1-Dichloroethene	10.0	10.1		ug/L		101	70 - 130	
1,1-Dichloropropene	10.0	10.6		ug/L		106	70 - 130	
1,2,3-Trichlorobenzene	10.0	9.25		ug/L		93	60 - 140	
1,2,3-Trichloropropane	10.0	10.2		ug/L		102	63 - 130	
1,2,4-Trichlorobenzene	10.0	9.02		ug/L		90	60 - 140	
1,2,4-Trimethylbenzene	10.0	10.9		ug/L		109	70 - 135	
1,2-Dibromo-3-Chloropropane	10.0	9.50		ug/L		95	52 - 140	
1,2-Dibromoethane (EDB)	10.0	10.3		ug/L		103	70 - 130	
1,2-Dichlorobenzene	10.0	10.0		ug/L		100	70 - 130	
1,2-Dichloroethane	10.0	11.7		ug/L		117	57 - 138	
1,2-Dichloropropane	10.0	10.6		ug/L		106	67 - 130	
1,3,5-Trimethylbenzene	10.0	10.6		ug/L		106	70 - 136	
1,3-Dichlorobenzene	10.0	10.6		ug/L		106	70 - 130	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-563745/7

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	10.0	9.53		ug/L	95	70 - 130	
1,4-Dichlorobenzene	10.0	10.1		ug/L	101	70 - 130	
2,2-Dichloropropane	10.0	11.6		ug/L	116	68 - 141	
2-Chlorotoluene	10.0	10.4		ug/L	104	70 - 130	
4-Chlorotoluene	10.0	9.63		ug/L	96	70 - 130	
Acetone	50.0	52.2		ug/L	104	10 - 150	
Benzene	10.0	9.95		ug/L	100	68 - 130	
Bromobenzene	10.0	10.3		ug/L	103	70 - 130	
Bromoform	10.0	10.9		ug/L	109	70 - 130	
Bromochloromethane	10.0	10.5		ug/L	105	70 - 132	
Bromodichloromethane	10.0	9.79		ug/L	98	60 - 148	
Bromomethane	10.0	12.8		ug/L	128	64 - 139	
Carbon tetrachloride	10.0	12.1		ug/L	121	60 - 150	
Chlorobenzene	10.0	10.4		ug/L	104	70 - 130	
Chloroethane	10.0	12.5		ug/L	125	64 - 135	
Chloroform	10.0	11.1		ug/L	111	70 - 130	
Chloromethane	10.0	10.6		ug/L	106	47 - 140	
cis-1,2-Dichloroethene	10.0	10.6		ug/L	106	70 - 133	
cis-1,3-Dichloropropene	10.0	10.1		ug/L	101	70 - 133	
Dibromochloromethane	10.0	11.5		ug/L	115	69 - 145	
Dibromomethane	10.0	11.5		ug/L	115	70 - 130	
Dichlorodifluoromethane	10.0	9.94		ug/L	99	29 - 150	
Ethylbenzene	10.0	9.81		ug/L	98	70 - 130	
Hexachlorobutadiene	10.0	9.00		ug/L	90	10 - 150	
Isopropylbenzene	10.0	10.7		ug/L	107	70 - 136	
m,p-Xylene	10.0	10.1		ug/L	101	70 - 130	
Methylene Chloride	10.0	10.4		ug/L	104	52 - 130	
Methyl-t-Butyl Ether (MTBE)	10.0	9.72		ug/L	97	63 - 131	
Naphthalene	10.0	9.18		ug/L	92	60 - 140	
n-Butylbenzene	10.0	10.0		ug/L	100	65 - 150	
N-Propylbenzene	10.0	10.1		ug/L	101	67 - 139	
o-Xylene	10.0	10.5		ug/L	105	70 - 130	
p-Isopropyltoluene	10.0	10.8		ug/L	108	70 - 132	
sec-Butylbenzene	10.0	10.7		ug/L	107	70 - 138	
Styrene	10.0	11.7		ug/L	117	70 - 134	
tert-Butylbenzene	10.0	11.1		ug/L	111	70 - 130	
Tetrachloroethene	10.0	9.85		ug/L	98	70 - 130	
Toluene	10.0	9.41		ug/L	94	70 - 130	
trans-1,2-Dichloroethene	10.0	10.5		ug/L	105	70 - 130	
trans-1,3-Dichloropropene	10.0	10.8		ug/L	108	70 - 132	
Trichloroethene	10.0	11.2		ug/L	112	70 - 130	
Trichlorofluoromethane	10.0	11.4		ug/L	114	60 - 150	
Vinyl chloride	10.0	12.2		ug/L	122	59 - 133	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		70 - 130
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	112		76 - 132

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-563745/7

Matrix: Water

Analysis Batch: 563745

Surrogate	LCS	LCS	
	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)	92		80 - 128

Lab Sample ID: 440-247942-C-5 MS

Matrix: Water

Analysis Batch: 563745

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,1,1-Trichloroethane	ND		100	109		ug/L		109	70 - 130
1,1,2,2-Tetrachloroethane	ND		100	89.6		ug/L		90	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		100	115		ug/L		115	60 - 140
1,1,2-Trichloroethane	ND		100	96.6		ug/L		97	70 - 130
1,1-Dichloroethane	14		100	124		ug/L		110	65 - 130
1,1-Dichloroethene	210		100	289		ug/L		79	70 - 130
1,1-Dichloropropene	ND		100	106		ug/L		106	64 - 130
1,2,3-Trichlorobenzene	ND		100	94.4		ug/L		94	60 - 140
1,2,3-Trichloropropane	ND		100	98.2		ug/L		98	60 - 130
1,2,4-Trichlorobenzene	ND		100	92.4		ug/L		92	60 - 140
1,2,4-Trimethylbenzene	ND		100	102		ug/L		102	70 - 130
1,2-Dibromo-3-Chloropropane	ND		100	95.9		ug/L		96	48 - 140
1,2-Dibromoethane (EDB)	ND		100	103		ug/L		103	70 - 131
1,2-Dichlorobenzene	ND		100	97.3		ug/L		97	70 - 130
1,2-Dichloroethane	ND		100	111		ug/L		111	56 - 146
1,2-Dichloropropane	ND		100	102		ug/L		102	69 - 130
1,3,5-Trimethylbenzene	ND		100	100		ug/L		100	70 - 130
1,3-Dichlorobenzene	ND		100	101		ug/L		101	70 - 130
1,3-Dichloropropane	ND		100	92.5		ug/L		92	70 - 130
1,4-Dichlorobenzene	ND		100	96.9		ug/L		97	70 - 130
2,2-Dichloropropane	ND		100	108		ug/L		108	69 - 138
2-Chlorotoluene	ND		100	95.8		ug/L		96	70 - 130
4-Chlorotoluene	ND		100	94.3		ug/L		94	70 - 130
Acetone	ND		500	434		ug/L		87	10 - 150
Benzene	ND		100	95.0		ug/L		95	66 - 130
Bromobenzene	ND		100	97.3		ug/L		97	70 - 130
Bromochloromethane	ND		100	109		ug/L		109	70 - 130
Bromodichloromethane	ND		100	102		ug/L		102	70 - 138
Bromoform	ND		100	96.2		ug/L		96	59 - 150
Bromomethane	ND		100	118		ug/L		118	62 - 131
Carbon tetrachloride	ND		100	119		ug/L		119	60 - 150
Chlorobenzene	ND		100	104		ug/L		104	70 - 130
Chloroethane	ND		100	125		ug/L		125	68 - 130
Chloroform	ND		100	102		ug/L		102	70 - 130
Chloromethane	ND		100	106		ug/L		106	39 - 144
cis-1,2-Dichloroethene	ND		100	99.9		ug/L		100	70 - 130
cis-1,3-Dichloropropene	ND		100	103		ug/L		103	70 - 133
Dibromochloromethane	ND		100	107		ug/L		107	70 - 148
Dibromomethane	ND		100	107		ug/L		107	70 - 130
Dichlorodifluoromethane	ND		100	86.0		ug/L		86	25 - 142
Ethylbenzene	ND		100	97.3		ug/L		97	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247942-C-5 MS

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	ND		100	91.4		ug/L		91	10 - 150
Isopropylbenzene	ND		100	104		ug/L		104	70 - 132
m,p-Xylene	ND		100	103		ug/L		103	70 - 133
Methylene Chloride	ND		100	93.1		ug/L		93	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		100	91.2		ug/L		91	70 - 130
Naphthalene	ND		100	91.2		ug/L		91	60 - 140
n-Butylbenzene	ND		100	96.5		ug/L		96	61 - 149
N-Propylbenzene	ND		100	92.6		ug/L		93	66 - 135
o-Xylene	ND		100	105		ug/L		105	70 - 133
p-Isopropyltoluene	ND		100	102		ug/L		102	70 - 130
sec-Butylbenzene	ND		100	102		ug/L		102	67 - 134
Styrene	ND		100	116		ug/L		116	29 - 150
tert-Butylbenzene	ND		100	101		ug/L		101	70 - 130
Tetrachloroethene	ND		100	96.6		ug/L		97	70 - 137
Toluene	ND		100	91.6		ug/L		92	70 - 130
trans-1,2-Dichloroethene	ND		100	96.0		ug/L		96	70 - 130
trans-1,3-Dichloropropene	ND		100	102		ug/L		102	70 - 138
Trichloroethene	ND		100	118		ug/L		118	70 - 130
Trichlorofluoromethane	ND		100	115		ug/L		115	60 - 150
Vinyl chloride	ND	F1	100	147	F1	ug/L		147	50 - 137
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Surrogate	MS %Recovery	MS Qualifier	MS Limits						
1,2-Dichloroethane-d4 (Surr)	112		70 - 130						
4-Bromofluorobenzene (Surr)	94		80 - 120						
Dibromofluoromethane (Surr)	113		76 - 132						
Toluene-d8 (Surr)	98		80 - 128						

Lab Sample ID: 440-247942-C-5 MSD

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		100	109		ug/L		109	70 - 130	0	20
1,1,2,2-Tetrachloroethane	ND		100	96.8		ug/L		97	63 - 130	8	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		100	109		ug/L		109	60 - 140	6	20
1,1,2-Trichloroethane	ND		100	100		ug/L		100	70 - 130	4	25
1,1-Dichloroethane	14		100	121		ug/L		106	65 - 130	3	20
1,1-Dichloroethene	210		100	290		ug/L		80	70 - 130	0	20
1,1-Dichloropropene	ND		100	106		ug/L		106	64 - 130	0	20
1,2,3-Trichlorobenzene	ND		100	101		ug/L		101	60 - 140	7	20
1,2,3-Trichloropropane	ND		100	115		ug/L		115	60 - 130	16	30
1,2,4-Trichlorobenzene	ND		100	99.9		ug/L		100	60 - 140	8	20
1,2,4-Trimethylbenzene	ND		100	103		ug/L		103	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		100	106		ug/L		106	48 - 140	10	30
1,2-Dibromoethane (EDB)	ND		100	111		ug/L		111	70 - 131	8	25
1,2-Dichlorobenzene	ND		100	96.8		ug/L		97	70 - 130	1	20
1,2-Dichloroethane	ND		100	117		ug/L		117	56 - 146	5	20
1,2-Dichloropropane	ND		100	97.0		ug/L		97	69 - 130	5	20

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247942-C-5 MSD

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	Limits	RPD	RPD Limit
1,3,5-Trimethylbenzene	ND		100	97.9		ug/L		98	70 - 130	2	20
1,3-Dichlorobenzene	ND		100	103		ug/L		103	70 - 130	2	20
1,3-Dichloropropane	ND		100	101		ug/L		101	70 - 130	9	25
1,4-Dichlorobenzene	ND		100	97.3		ug/L		97	70 - 130	0	20
2,2-Dichloropropane	ND		100	114		ug/L		114	69 - 138	5	25
2-Chlorotoluene	ND		100	93.8		ug/L		94	70 - 130	2	20
4-Chlorotoluene	ND		100	95.4		ug/L		95	70 - 130	1	20
Acetone	ND		500	543		ug/L		109	10 - 150	22	35
Benzene	ND		100	98.7		ug/L		99	66 - 130	4	20
Bromobenzene	ND		100	96.9		ug/L		97	70 - 130	0	20
Bromoform	ND		100	114		ug/L		114	70 - 130	5	25
Bromochloromethane	ND		100	100		ug/L		100	70 - 138	2	20
Bromodichloromethane	ND		100	108		ug/L		108	59 - 150	11	25
Bromoform	ND		100	120		ug/L		120	62 - 131	2	25
Bromomethane	ND		100	119		ug/L		119	60 - 150	0	25
Carbon tetrachloride	ND		100	105		ug/L		105	70 - 130	2	20
Chlorobenzene	ND		100	121		ug/L		121	68 - 130	3	25
Chloroethane	ND		100	105		ug/L		105	70 - 130	3	20
Chloroform	ND		100	100		ug/L		100	39 - 144	5	25
Chloromethane	ND		100	109		ug/L		109	70 - 130	8	20
cis-1,2-Dichloroethene	ND		100	105		ug/L		105	70 - 133	2	20
cis-1,3-Dichloropropene	ND		100	123		ug/L		123	70 - 148	14	25
Dibromochloromethane	ND		100	109		ug/L		109	70 - 130	2	25
Dibromomethane	ND		100	85.5		ug/L		85	25 - 142	1	30
Dichlorodifluoromethane	ND		100	98.0		ug/L		98	70 - 130	1	20
Ethylbenzene	ND		100	90.9		ug/L		91	10 - 150	1	20
Hexachlorobutadiene	ND		100	106		ug/L		106	70 - 132	2	20
Isopropylbenzene	ND		100	103		ug/L		103	70 - 133	0	25
m,p-Xylene	ND		100	99.9		ug/L		100	52 - 130	7	20
Methylene Chloride	ND		100	109		ug/L		109	70 - 133	5	20
Methyl-t-Butyl Ether (MTBE)	ND		100	99.9		ug/L		100	70 - 130	9	25
Naphthalene	ND		100	103		ug/L		103	60 - 140	12	30
n-Butylbenzene	ND		100	95.4		ug/L		95	61 - 149	1	20
N-Propylbenzene	ND		100	92.2		ug/L		92	66 - 135	0	20
o-Xylene	ND		100	109		ug/L		109	70 - 133	5	20
p-Isopropyltoluene	ND		100	103		ug/L		103	70 - 130	1	20
sec-Butylbenzene	ND		100	101		ug/L		101	67 - 134	1	20
Styrene	ND		100	123		ug/L		123	29 - 150	6	35
tert-Butylbenzene	ND		100	101		ug/L		101	70 - 130	0	20
Tetrachloroethene	ND		100	96.3		ug/L		96	70 - 137	0	20
Toluene	ND		100	91.9		ug/L		92	70 - 130	0	20
trans-1,2-Dichloroethene	ND		100	98.0		ug/L		98	70 - 130	2	20
trans-1,3-Dichloropropene	ND		100	110		ug/L		110	70 - 138	8	25
Trichloroethene	ND		100	113		ug/L		113	70 - 130	5	20
Trichlorofluoromethane	ND		100	111		ug/L		111	60 - 150	3	25
Vinyl chloride	ND	F1	100	141	F1	ug/L		141	50 - 137	4	30

MSD **MSD**

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	116		70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247942-C-5 MSD

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	92		80 - 120
Dibromofluoromethane (Surr)	113		76 - 132
Toluene-d8 (Surr)	97		80 - 128

Lab Sample ID: MB 440-563962/4

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	Dil Fac						
	Result	Qualifier		RL	MDL	Unit	D	Prepared	Analyzed
1,1,1,2-Tetrachloroethane	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
1,1,1-Trichloroethane	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
1,1,2,2-Tetrachloroethane	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1	5.0	0.50	ug/L		08/19/19 09:51	
1,1,2-Trichloroethane	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
1,1-Dichloroethane	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
1,1-Dichloroethene	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
1,1-Dichloropropene	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
1,2,3-Trichlorobenzene	ND		1	1.0	0.40	ug/L		08/19/19 09:51	
1,2,3-Trichloropropane	ND		1	1.0	0.40	ug/L		08/19/19 09:51	
1,2,4-Trichlorobenzene	ND		1	1.0	0.40	ug/L		08/19/19 09:51	
1,2,4-Trimethylbenzene	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
1,2-Dibromo-3-Chloropropane	ND		1	5.0	0.50	ug/L		08/19/19 09:51	
1,2-Dibromoethane (EDB)	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
1,2-Dichlorobenzene	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
1,2-Dichloroethane	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
1,2-Dichloropropane	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
1,3,5-Trimethylbenzene	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
1,3-Dichlorobenzene	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
1,3-Dichloropropane	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
1,4-Dichlorobenzene	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
2,2-Dichloropropane	ND		1	1.0	0.40	ug/L		08/19/19 09:51	
2-Chlorotoluene	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
4-Chlorotoluene	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
Acetone	ND		1	10	10	ug/L		08/19/19 09:51	
Benzene	ND		1	0.50	0.25	ug/L		08/19/19 09:51	
Bromobenzene	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
Bromochloromethane	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
Bromodichloromethane	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
Bromoform	ND		1	1.0	0.40	ug/L		08/19/19 09:51	
Bromomethane	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
Carbon tetrachloride	ND		1	0.50	0.25	ug/L		08/19/19 09:51	
Chlorobenzene	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
Chloroethane	ND		1	1.0	0.40	ug/L		08/19/19 09:51	
Chloroform	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
Chloromethane	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
cis-1,2-Dichloroethene	ND		1	1.0	0.25	ug/L		08/19/19 09:51	
cis-1,3-Dichloropropene	ND		1	0.50	0.25	ug/L		08/19/19 09:51	
Dibromochloromethane	ND		1	1.0	0.25	ug/L		08/19/19 09:51	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-563962/4

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/19/19 09:51	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/19/19 09:51	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/19/19 09:51	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Naphthalene	ND		1.0	0.40	ug/L			08/19/19 09:51	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/19/19 09:51	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
o-Xylene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Styrene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Toluene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/19/19 09:51	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/19/19 09:51	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/19/19 09:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 130		08/19/19 09:51	1
4-Bromofluorobenzene (Surr)	106		80 - 120		08/19/19 09:51	1
Dibromofluoromethane (Surr)	121		76 - 132		08/19/19 09:51	1
Toluene-d8 (Surr)	89		80 - 128		08/19/19 09:51	1

Lab Sample ID: LCS 440-563962/5

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1,1,2-Tetrachloroethane	10.0	10.2		ug/L		102	60 - 141
1,1,1-Trichloroethane	10.0	9.30		ug/L		93	70 - 130
1,1,2,2-Tetrachloroethane	10.0	11.2		ug/L		112	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.96		ug/L		100	60 - 140
1,1,2-Trichloroethane	10.0	11.5		ug/L		115	70 - 130
1,1-Dichloroethane	10.0	10.5		ug/L		105	64 - 130
1,1-Dichloroethene	10.0	11.6		ug/L		116	70 - 130
1,1-Dichloropropene	10.0	9.23		ug/L		92	70 - 130
1,2,3-Trichlorobenzene	10.0	13.6		ug/L		136	60 - 140
1,2,3-Trichloropropane	10.0	10.8		ug/L		108	63 - 130
1,2,4-Trichlorobenzene	10.0	13.3		ug/L		133	60 - 140

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-563962/5

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trimethylbenzene	10.0	9.29		ug/L	93	70 - 135	
1,2-Dibromo-3-Chloropropane	10.0	10.6		ug/L	106	52 - 140	
1,2-Dibromoethane (EDB)	10.0	9.54		ug/L	95	70 - 130	
1,2-Dichlorobenzene	10.0	11.1		ug/L	111	70 - 130	
1,2-Dichloroethane	10.0	8.14		ug/L	81	57 - 138	
1,2-Dichloropropane	10.0	12.3		ug/L	123	67 - 130	
1,3,5-Trimethylbenzene	10.0	8.97		ug/L	90	70 - 136	
1,3-Dichlorobenzene	10.0	9.66		ug/L	97	70 - 130	
1,3-Dichloropropane	10.0	10.9		ug/L	109	70 - 130	
1,4-Dichlorobenzene	10.0	9.20		ug/L	92	70 - 130	
2,2-Dichloropropane	10.0	10.2		ug/L	102	68 - 141	
2-Chlorotoluene	10.0	8.94		ug/L	89	70 - 130	
4-Chlorotoluene	10.0	8.86		ug/L	89	70 - 130	
Acetone	50.0	47.0		ug/L	94	10 - 150	
Benzene	10.0	9.68		ug/L	97	68 - 130	
Bromobenzene	10.0	12.4		ug/L	124	70 - 130	
Bromochloromethane	10.0	12.8		ug/L	128	70 - 130	
Bromodichloromethane	10.0	12.6		ug/L	126	70 - 132	
Bromoform	10.0	12.0		ug/L	120	60 - 148	
Bromomethane	10.0	11.6		ug/L	116	64 - 139	
Carbon tetrachloride	10.0	9.14		ug/L	91	60 - 150	
Chlorobenzene	10.0	10.3		ug/L	103	70 - 130	
Chloroethane	10.0	9.14		ug/L	91	64 - 135	
Chloroform	10.0	11.4		ug/L	114	70 - 130	
Chloromethane	10.0	8.04		ug/L	80	47 - 140	
cis-1,2-Dichloroethene	10.0	13.1		ug/L	131	70 - 133	
cis-1,3-Dichloropropene	10.0	11.5		ug/L	115	70 - 133	
Dibromochloromethane	10.0	10.1		ug/L	101	69 - 145	
Dibromomethane	10.0	11.6		ug/L	116	70 - 130	
Dichlorodifluoromethane	10.0	7.81		ug/L	78	29 - 150	
Ethylbenzene	10.0	11.1		ug/L	111	70 - 130	
Hexachlorobutadiene	10.0	13.9		ug/L	139	10 - 150	
Isopropylbenzene	10.0	9.34		ug/L	93	70 - 136	
m,p-Xylene	10.0	10.6		ug/L	106	70 - 130	
Methylene Chloride	10.0	11.2		ug/L	112	52 - 130	
Methyl-t-Butyl Ether (MTBE)	10.0	12.0		ug/L	120	63 - 131	
Naphthalene	10.0	13.2		ug/L	132	60 - 140	
n-Butylbenzene	10.0	11.9		ug/L	119	65 - 150	
N-Propylbenzene	10.0	8.97		ug/L	90	67 - 139	
o-Xylene	10.0	10.7		ug/L	107	70 - 130	
p-Isopropyltoluene	10.0	9.01		ug/L	90	70 - 132	
sec-Butylbenzene	10.0	9.11		ug/L	91	70 - 138	
Styrene	10.0	11.2		ug/L	112	70 - 134	
tert-Butylbenzene	10.0	8.88		ug/L	89	70 - 130	
Toluene	10.0	10.2		ug/L	102	70 - 130	
trans-1,2-Dichloroethene	10.0	11.4		ug/L	114	70 - 130	
trans-1,3-Dichloropropene	10.0	11.1		ug/L	111	70 - 132	
Trichlorofluoromethane	10.0	9.16		ug/L	92	60 - 150	
Vinyl chloride	10.0	8.42		ug/L	84	59 - 133	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	LCS	LCS	
	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		70 - 130
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	115		76 - 132
Toluene-d8 (Surr)	104		80 - 128

Lab Sample ID: 440-248100-A-6 MS

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
1,1,1,2-Tetrachloroethane	ND		10.0	9.91		ug/L	99	60 - 149	
1,1,1-Trichloroethane	ND		10.0	11.4		ug/L	114	70 - 130	
1,1,2,2-Tetrachloroethane	ND F1		10.0	13.8	F1	ug/L	138	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	16 F1		10.0	33.3	F1	ug/L	177	60 - 140	
1,1,2-Trichloroethane	ND F2		10.0	8.61		ug/L	86	70 - 130	
1,1-Dichloroethane	ND		10.0	11.6		ug/L	116	65 - 130	
1,1-Dichloroethene	15 F1 F2		10.0	31.8	F1	ug/L	173	70 - 130	
1,1-Dichloropropene	ND		10.0	11.9		ug/L	119	64 - 130	
1,2,3-Trichlorobenzene	ND		10.0	11.7		ug/L	117	60 - 140	
1,2,3-Trichloropropane	ND		10.0	12.2		ug/L	122	60 - 130	
1,2,4-Trichlorobenzene	ND		10.0	11.6		ug/L	116	60 - 140	
1,2,4-Trimethylbenzene	ND		10.0	10.2		ug/L	102	70 - 130	
1,2-Dibromo-3-Chloropropane	ND		10.0	10.5		ug/L	105	48 - 140	
1,2-Dibromoethane (EDB)	ND		10.0	9.08		ug/L	91	70 - 131	
1,2-Dichlorobenzene	ND		10.0	12.1		ug/L	121	70 - 130	
1,2-Dichloroethane	ND		10.0	9.19		ug/L	92	56 - 146	
1,2-Dichloropropane	ND		10.0	10.3		ug/L	103	69 - 130	
1,3,5-Trimethylbenzene	ND		10.0	10.1		ug/L	101	70 - 130	
1,3-Dichlorobenzene	ND		10.0	10.5		ug/L	105	70 - 130	
1,3-Dichloropropane	ND		10.0	8.57		ug/L	86	70 - 130	
1,4-Dichlorobenzene	ND		10.0	10.3		ug/L	103	70 - 130	
2,2-Dichloropropane	ND		10.0	11.5		ug/L	115	69 - 138	
2-Chlorotoluene	ND		10.0	9.79		ug/L	98	70 - 130	
4-Chlorotoluene	ND		10.0	9.83		ug/L	98	70 - 130	
Acetone	ND		50.0	48.4		ug/L	97	10 - 150	
Benzene	ND		10.0	10.6		ug/L	106	66 - 130	
Bromobenzene	ND		10.0	11.0		ug/L	110	70 - 130	
Bromochloromethane	ND		10.0	12.7		ug/L	127	70 - 130	
Bromodichloromethane	ND		10.0	10.7		ug/L	107	70 - 138	
Bromoform	ND		10.0	9.95		ug/L	100	59 - 150	
Bromomethane	ND F1		10.0	17.2	F1	ug/L	172	62 - 131	
Carbon tetrachloride	ND		10.0	10.9		ug/L	109	60 - 150	
Chlorobenzene	ND		10.0	9.77		ug/L	98	70 - 130	
Chloroethane	ND F1		10.0	13.8	F1	ug/L	138	68 - 130	
Chloroform	ND		10.0	12.4		ug/L	124	70 - 130	
Chloromethane	ND		10.0	12.4		ug/L	124	39 - 144	
cis-1,2-Dichloroethene	ND		10.0	12.5		ug/L	125	70 - 130	
cis-1,3-Dichloropropene	ND		10.0	9.92		ug/L	99	70 - 133	
Dibromochloromethane	ND		10.0	8.57		ug/L	86	70 - 148	
Dibromomethane	ND		10.0	10.5		ug/L	105	70 - 130	
Dichlorodifluoromethane	ND		10.0	11.7		ug/L	117	25 - 142	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248100-A-6 MS

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	ND		10.0	10.4		ug/L		104	70 - 130
Hexachlorobutadiene	ND		10.0	12.7		ug/L		127	10 - 150
Isopropylbenzene	ND		10.0	8.55		ug/L		85	70 - 132
m,p-Xylene	ND		10.0	9.65		ug/L		96	70 - 133
Methylene Chloride	ND	F2	10.0	12.9		ug/L		129	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		10.0	11.7		ug/L		117	70 - 130
Naphthalene	ND		10.0	10.4		ug/L		104	60 - 140
n-Butylbenzene	ND	F2	10.0	13.7		ug/L		137	61 - 149
N-Propylbenzene	ND		10.0	10.1		ug/L		101	66 - 135
o-Xylene	ND		10.0	10.5		ug/L		105	70 - 133
p-Isopropyltoluene	ND		10.0	10.1		ug/L		101	70 - 130
sec-Butylbenzene	ND		10.0	10.5		ug/L		105	67 - 134
Styrene	ND		10.0	9.94		ug/L		99	29 - 150
tert-Butylbenzene	ND		10.0	10.2		ug/L		102	70 - 130
Toluene	ND		10.0	8.54		ug/L		85	70 - 130
trans-1,2-Dichloroethene	ND		10.0	12.7		ug/L		127	70 - 130
trans-1,3-Dichloropropene	ND		10.0	10.3		ug/L		103	70 - 138
Trichlorofluoromethane	5.4	F2		10.0	19.0	ug/L		137	60 - 150
Vinyl chloride	ND		10.0	13.5		ug/L		135	50 - 137
Surrogate		MS %Recovery	MS Qualifier	Limits					
1,2-Dichloroethane-d4 (Surr)		101		70 - 130					
4-Bromofluorobenzene (Surr)		94		80 - 120					
Dibromofluoromethane (Surr)		118		76 - 132					
Toluene-d8 (Surr)		78	X	80 - 128					

Lab Sample ID: 440-248100-A-6 MSD

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		10.0	9.84		ug/L		98	60 - 149	1	20
1,1,1-Trichloroethane	ND		10.0	9.86		ug/L		99	70 - 130	15	20
1,1,2,2-Tetrachloroethane	ND	F1	10.0	10.4		ug/L		104	63 - 130	28	30
1,1,2-Trichloro-1,2,2-trifluoroethane	16	F1	10.0	28.3		ug/L		127	60 - 140	16	20
1,1,2-Trichloroethane	ND	F2	10.0	11.3	F2	ug/L		113	70 - 130	27	25
1,1-Dichloroethane	ND		10.0	9.82		ug/L		98	65 - 130	17	20
1,1-Dichloroethene	15	F1 F2	10.0	23.8	F2	ug/L		92	70 - 130	29	20
1,1-Dichloropropene	ND		10.0	10.8		ug/L		108	64 - 130	10	20
1,2,3-Trichlorobenzene	ND		10.0	11.7		ug/L		117	60 - 140	0	20
1,2,3-Trichloropropane	ND		10.0	9.91		ug/L		99	60 - 130	21	30
1,2,4-Trichlorobenzene	ND		10.0	13.8		ug/L		138	60 - 140	17	20
1,2,4-Trimethylbenzene	ND		10.0	9.21		ug/L		92	70 - 130	11	25
1,2-Dibromo-3-Chloropropane	ND		10.0	10.6		ug/L		106	48 - 140	1	30
1,2-Dibromoethane (EDB)	ND		10.0	9.31		ug/L		93	70 - 131	2	25
1,2-Dichlorobenzene	ND		10.0	9.94		ug/L		99	70 - 130	20	20
1,2-Dichloroethane	ND		10.0	8.69		ug/L		87	56 - 146	6	20
1,2-Dichloropropane	ND		10.0	9.60		ug/L		96	69 - 130	7	20

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248100-A-6 MSD

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD	RPD Limit	
1,3,5-Trimethylbenzene	ND		10.0	9.30		ug/L		93	70 - 130	8	20
1,3-Dichlorobenzene	ND		10.0	9.86		ug/L		99	70 - 130	7	20
1,3-Dichloropropane	ND		10.0	9.16		ug/L		92	70 - 130	7	25
1,4-Dichlorobenzene	ND		10.0	9.48		ug/L		95	70 - 130	8	20
2,2-Dichloropropane	ND		10.0	10.4		ug/L		104	69 - 138	10	25
2-Chlorotoluene	ND		10.0	10.6		ug/L		106	70 - 130	8	20
4-Chlorotoluene	ND		10.0	9.82		ug/L		98	70 - 130	0	20
Acetone	ND		50.0	42.5		ug/L		85	10 - 150	13	35
Benzene	ND		10.0	9.74		ug/L		97	66 - 130	8	20
Bromobenzene	ND		10.0	12.0		ug/L		120	70 - 130	9	20
Bromoform	ND		10.0	11.9		ug/L		119	70 - 130	7	25
Bromochloromethane	ND		10.0	10.9		ug/L		109	70 - 138	1	20
Bromodichloromethane	ND		10.0	9.97		ug/L		100	59 - 150	0	25
Bromomethane	ND	F1	10.0	17.1	F1	ug/L		171	62 - 131	1	25
Carbon tetrachloride	ND		10.0	9.28		ug/L		93	60 - 150	16	25
Chlorobenzene	ND		10.0	9.51		ug/L		95	70 - 130	3	20
Chloroethane	ND	F1	10.0	12.5		ug/L		125	68 - 130	10	25
Chloroform	ND		10.0	10.8		ug/L		108	70 - 130	14	20
Chloromethane	ND		10.0	10.7		ug/L		107	39 - 144	15	25
cis-1,2-Dichloroethene	ND		10.0	10.2		ug/L		102	70 - 130	20	20
cis-1,3-Dichloropropene	ND		10.0	11.6		ug/L		116	70 - 133	15	20
Dibromochloromethane	ND		10.0	9.34		ug/L		93	70 - 148	9	25
Dibromomethane	ND		10.0	9.33		ug/L		93	70 - 130	12	25
Dichlorodifluoromethane	ND		10.0	10.5		ug/L		105	25 - 142	11	30
Ethylbenzene	ND		10.0	8.95		ug/L		89	70 - 130	15	20
Hexachlorobutadiene	ND		10.0	12.2		ug/L		122	10 - 150	3	20
Isopropylbenzene	ND		10.0	10.0		ug/L		100	70 - 132	16	20
m,p-Xylene	ND		10.0	8.84		ug/L		88	70 - 133	9	25
Methylene Chloride	ND	F2	10.0	10.3	F2	ug/L		103	52 - 130	22	20
Methyl-t-Butyl Ether (MTBE)	ND		10.0	10.7		ug/L		107	70 - 130	8	25
Naphthalene	ND		10.0	12.1		ug/L		121	60 - 140	15	30
n-Butylbenzene	ND	F2	10.0	9.37	F2	ug/L		94	61 - 149	37	20
N-Propylbenzene	ND		10.0	11.6		ug/L		116	66 - 135	14	20
o-Xylene	ND		10.0	9.11		ug/L		91	70 - 133	14	20
p-Isopropyltoluene	ND		10.0	9.07		ug/L		91	70 - 130	11	20
sec-Butylbenzene	ND		10.0	8.89		ug/L		89	67 - 134	17	20
Styrene	ND		10.0	9.02		ug/L		90	29 - 150	10	35
tert-Butylbenzene	ND		10.0	8.69		ug/L		87	70 - 130	16	20
Toluene	ND		10.0	9.01		ug/L		90	70 - 130	5	20
trans-1,2-Dichloroethene	ND		10.0	11.2		ug/L		112	70 - 130	13	20
trans-1,3-Dichloropropene	ND		10.0	10.1		ug/L		101	70 - 138	2	25
Trichlorofluoromethane	5.4	F2	10.0	12.9	F2	ug/L		75	60 - 150	38	25
Vinyl chloride	ND		10.0	10.9		ug/L		109	50 - 137	21	30

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	107		76 - 132

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248100-A-6 MSD

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Surrogate	MSD	MSD
	%Recovery	Qualifier
Toluene-d8 (Surr)	98	80 - 128

Lab Sample ID: MB 440-564207/4

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND				250	180	ug/L			08/20/19 08:25	1
Tetrachloroethene	ND				1.0	0.25	ug/L			08/20/19 08:25	1
Trichloroethene	ND				1.0	0.25	ug/L			08/20/19 08:25	1

Tentatively Identified Compound	MB	MB	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound			None		ug/L					08/20/19 08:25	1

Surrogate	MB	MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81				70 - 130			1
4-Bromofluorobenzene (Surr)	108				80 - 120			1
Dibromofluoromethane (Surr)	80				76 - 132			1
Toluene-d8 (Surr)	104				80 - 128			1

Lab Sample ID: LCS 440-564207/1003

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	LCS	LCS	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
Surrogate	LCS	LCS	%Recovery	Qualifier	Limits				Limits
Isopropyl alcohol				250		266		106	49 - 142
1,2-Dichloroethane-d4 (Surr)	82				70 - 130				
4-Bromofluorobenzene (Surr)	96				80 - 120				
Dibromofluoromethane (Surr)	99				76 - 132				
Toluene-d8 (Surr)	105				80 - 128				

Lab Sample ID: LCS 440-564207/5

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	LCS	LCS	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
Surrogate	LCS	LCS	%Recovery	Qualifier	Limits				Limits
Tetrachloroethene			10.0	9.89		ug/L		99	70 - 130
Trichloroethene			10.0	10.4		ug/L		104	70 - 130

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86				70 - 130
4-Bromofluorobenzene (Surr)	82				80 - 120
Dibromofluoromethane (Surr)	103				76 - 132
Toluene-d8 (Surr)	100				80 - 128

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-564207/6

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Tetrachloroethene	10.0	9.94		ug/L		99	70 - 130	0	20
Trichloroethene	10.0	10.9		ug/L		109	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		70 - 130
4-Bromofluorobenzene (Surr)	90		80 - 120
Dibromofluoromethane (Surr)	89		76 - 132
Toluene-d8 (Surr)	94		80 - 128

Lab Sample ID: 440-248098-1 MS

Matrix: Water

Analysis Batch: 564207

Client Sample ID: OC_GW_EW-1_20190815

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol	ND		250	271		ug/L		108	46 - 142
Tetrachloroethene	180	E	10.0	223	E 4	ug/L		390	70 - 137
Trichloroethene	26	F1	10.0	31.1	F1	ug/L		53	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	76		70 - 130
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	96		76 - 132
Toluene-d8 (Surr)	105		80 - 128

Lab Sample ID: 440-248098-1 MSD

Matrix: Water

Analysis Batch: 564207

Client Sample ID: OC_GW_EW-1_20190815

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isopropyl alcohol	ND		250	254		ug/L		101	46 - 142	7	40
Tetrachloroethene	180	E	10.0	215	E 4	ug/L		318	70 - 137	3	20
Trichloroethene	26	F1	10.0	30.4	F1	ug/L		46	70 - 130	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	71		70 - 130
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	92		76 - 132
Toluene-d8 (Surr)	100		80 - 128

Lab Sample ID: MB 440-565761/4

Matrix: Water

Analysis Batch: 565761

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/27/19 20:44	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-565761/4

Matrix: Water

Analysis Batch: 565761

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB		Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
	Est. Result	Qualifier							
1,3,5-Trichlorobenzene	1.05		ug/L		13.29	108-70-3		08/27/19 20:44	1
Tentatively Identified Compound	None		ug/L					08/27/19 20:44	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	93		70 - 130		08/27/19 20:44	1
4-Bromofluorobenzene (Surr)	94		80 - 120		08/27/19 20:44	1
Dibromofluoromethane (Surr)	97		76 - 132		08/27/19 20:44	1
Toluene-d8 (Surr)	100		80 - 128		08/27/19 20:44	1

Lab Sample ID: LCS 440-565761/1003

Matrix: Water

Analysis Batch: 565761

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike		LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
	Added							
Isopropyl alcohol		250	264		ug/L		105	49 - 142

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	90		70 - 130
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	100		76 - 132
Toluene-d8 (Surr)	100		80 - 128

Lab Sample ID: 440-248097-A-1 MS

Matrix: Water

Analysis Batch: 565761

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added						
Isopropyl alcohol	ND		250	256		ug/L		103	46 - 142

Surrogate	MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	94		70 - 130
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132
Toluene-d8 (Surr)	97		80 - 128

Lab Sample ID: 440-248097-A-1 MSD

Matrix: Water

Analysis Batch: 565761

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD
	Result	Qualifier	Added							
Isopropyl alcohol	ND		250	232	J	ug/L		93	46 - 142	10

Surrogate	MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	93		70 - 130
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	97		76 - 132
Toluene-d8 (Surr)	99		80 - 128

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-564093/1-A

Matrix: Water

Analysis Batch: 564299

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	0.10	ug/L		08/19/19 13:18	08/20/19 12:15	1
<hr/>									
Surrogate									
1,4-Dioxane-d8 (Surr)		%Recovery	Qualifer	Limits			Prepared	Analyzed	Dil Fac
		57		27 - 120			08/19/19 13:18	08/20/19 12:15	1

Lab Sample ID: LCS 440-564093/2-A

Matrix: Water

Analysis Batch: 564299

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	
1,4-Dioxane		2.00	1.62		ug/L		81	36 - 120
<hr/>								
Surrogate								
1,4-Dioxane-d8 (Surr)		%Recovery	Qualifer	Limits				
		60		27 - 120				

Lab Sample ID: LCSD 440-564093/3-A

Matrix: Water

Analysis Batch: 564299

Analyte		Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec.		RPD
1,4-Dioxane		2.00	1.30		ug/L		65	36 - 120	22
<hr/>									
Surrogate									
1,4-Dioxane-d8 (Surr)		%Recovery	Qualifer	Limits					
		61		27 - 120					

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 564093

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 564093

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 564093

QC Association Summary

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1
 SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 563745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248098-2	OC_GW_EW-3_20190815	Total/NA	Water	8260B	
440-248098-3	OC_GW_EW-4_20190815	Total/NA	Water	8260B	
440-248098-4	OC_GW_EW-5_20190815	Total/NA	Water	8260B	
MB 440-563745/5	Method Blank	Total/NA	Water	8260B	
LCS 440-563745/7	Lab Control Sample	Total/NA	Water	8260B	
440-247942-C-5 MS	Matrix Spike	Total/NA	Water	8260B	
440-247942-C-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 563962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248098-1	OC_GW_EW-1_20190815	Total/NA	Water	8260B	
MB 440-563962/4	Method Blank	Total/NA	Water	8260B	
LCS 440-563962/5	Lab Control Sample	Total/NA	Water	8260B	
440-248100-A-6 MS	Matrix Spike	Total/NA	Water	8260B	
440-248100-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 564207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248098-1 - RA	OC_GW_EW-1_20190815	Total/NA	Water	8260B	
440-248098-1 - DL	OC_GW_EW-1_20190815	Total/NA	Water	8260B	
MB 440-564207/4	Method Blank	Total/NA	Water	8260B	
LCS 440-564207/1003	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-564207/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-564207/6	Lab Control Sample Dup	Total/NA	Water	8260B	
440-248098-1 MS	OC_GW_EW-1_20190815	Total/NA	Water	8260B	
440-248098-1 MSD	OC_GW_EW-1_20190815	Total/NA	Water	8260B	

Analysis Batch: 565761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248098-2 - RA	OC_GW_EW-3_20190815	Total/NA	Water	8260B	
440-248098-3 - RA	OC_GW_EW-4_20190815	Total/NA	Water	8260B	
440-248098-4 - RA	OC_GW_EW-5_20190815	Total/NA	Water	8260B	
MB 440-565761/4	Method Blank	Total/NA	Water	8260B	
LCS 440-565761/1003	Lab Control Sample	Total/NA	Water	8260B	
440-248097-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-248097-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 564093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248098-1	OC_GW_EW-1_20190815	Total/NA	Water	3520C	
440-248098-2	OC_GW_EW-3_20190815	Total/NA	Water	3520C	
440-248098-3	OC_GW_EW-4_20190815	Total/NA	Water	3520C	
440-248098-4	OC_GW_EW-5_20190815	Total/NA	Water	3520C	
MB 440-564093/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-564093/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-564093/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

QC Association Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

GC/MS Semi VOA

Analysis Batch: 564299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248098-1	OC_GW_EW-1_20190815	Total/NA	Water	8270C SIM	564093
440-248098-2	OC_GW_EW-3_20190815	Total/NA	Water	8270C SIM	564093
440-248098-3	OC_GW_EW-4_20190815	Total/NA	Water	8270C SIM	564093
440-248098-4	OC_GW_EW-5_20190815	Total/NA	Water	8270C SIM	564093
MB 440-564093/1-A	Method Blank	Total/NA	Water	8270C SIM	564093
LCS 440-564093/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	564093
LCSD 440-564093/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	564093

Definitions/Glossary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1
SDG: Omega Chemical

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
D	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248098-1

SDG: Omega Chemical

Laboratory: Eurofins TestAmerica, Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State Program	CA ELAP 2706	06-30-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine

17461 Derian Ave
Suite 100
Irvine, CA 92614
phone 949.261.1022 Fax

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

RCRA NPDES Other:

Client Contact		Project Manager: Trent Henderson Tel/Fax: (949) 453-1045 / (949) 453-1047		Site Contact: Khalid Azhar Lab Contact: Danielle Roberts		Date: 8/15/19
De Maximis - Jaime Dinello 1322 Scott St., Suite 104 San Diego, CA 92106 (562) 756-8149		Analysis Turnaround Time □ CALENDAR DAYS □ WORKING DAYS TAT if different from Below _____ STD _____ □ 2 weeks □ 1 week □ 2 days		Carrier: For Lab Use Only: Walk-In Client: Lab Sampling: Job / SDG No.: Sample Specific Notes:		CCN No: 1 of 1 COCS Sampler: EPA 8270C - 1,4-Dioxane EPA 8260B - VOCs + Freons Perfom MS / MSD (Y/N)
Project Name: Omega Chem - 2019 Semi Ann. GWM Feb Site: Omega Chemical PO #: 31398GE742		□ 1 day				
Sample Identification		Sample Date	Sample Time	Sample Type (c=Comp, g=Grab)	Matrix	# of Cont.
OC_GW_EW-1_20190815	8/15/19	12:30	Grab	GW	5	x x
OC_GW_EW-2_201908	8/ /19		Grab	GW	5	x x
OC_GW_EW-3_20190815	8/15/19	12:50	Grab	GW	5	x x
OC_GW_EW-4_20190815	8/15/19	13:11	Grab	GW	5	x x
OC_GW_EW-5_201908	8/15/19	13:26	Grab	GW	5	x x
OC_GW_201908	8/ /19		Grab	GW	5	x x
OC_TB_201908	8/ /19		Grab	H2O	2	x
440-248088 Chain of Custody _____						
8/15/19 AK						
Special Instructions/QC Requirements & Comments:						
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		433509	Company: 	Cooler Temp. (°C): Obs'd: 	Cont'd: _____	Therm ID No.: _____
Reinquished by: 		Date/Time: 8/15/19	Received by: 	Company: TA-IRV	Date/Time: 8/15/19	Temp 5.1/5.3
Reinquished by: 		Date/Time: 8/15/19	Received by: 	Company: TA-IRV	Date/Time: 8/15/19	Temp 5.1/5.3
Reinquished by: 		Date/Time: 8/15/19	Received by: 	Company: TA-IRV	Date/Time: 8/15/19	Temp 5.1/5.3
Comments Section if the lab is to dispose of the sample		<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown	<input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months			

Preservation Used: 1= ice, 2= HCl; 3= H2SO4; 4=NaOH; 5= Other

Possible Hazard Identification:

Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

Non-Hazard Flammable Skin Irritant Poison B Unknown

Return to Client Disposal by Lab Archive for _____ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

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Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C. Job Number: 440-248098-1
SDG Number: Omega Chemical

Login Number: 248098

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True		
The cooler's custody seal, if present, is intact.	N/A	Not present	
Sample custody seals, if present, are intact.	N/A	Not Present	
The cooler or samples do not appear to have been compromised or tampered with.	True		
Samples were received on ice.	True		
Cooler Temperature is acceptable.	True		
Cooler Temperature is recorded.	True		
COC is present.	True		
COC is filled out in ink and legible.	True		
COC is filled out with all pertinent information.	True		
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.	
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		



Environment Testing
TestAmerica

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ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-248100-1

Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chem.-2019 Semi-Ann. GWM

For:

Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson

Danielle Roberts

Authorized for release by:
8/30/2019 1:43:24 PM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-248100-1	OC_GW_DPE-3_20190815	Water	08/15/19 08:42	08/15/19 15:45	
440-248100-2	OC_GW_DPE-4_20190815	Water	08/15/19 08:56	08/15/19 15:45	
440-248100-3	OC_GW_DPE-5_20190815	Water	08/15/19 10:05	08/15/19 15:45	
440-248100-4	OC_GW_DPE-8_20190815	Water	08/15/19 08:23	08/15/19 15:45	
440-248100-5	OC_GW_DPE-9_20190815	Water	08/15/19 09:20	08/15/19 15:45	
440-248100-6	OC_GW_DPE-7D_20190815	Water	08/15/19 11:00	08/15/19 15:45	
440-248100-7	OC_GW_DPE-10D_20190815	Water	08/15/19 10:30	08/15/19 15:45	
440-248100-8	OC_TB2_20190815	Water	08/15/19 07:00	08/15/19 15:45	

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Eurofins TestAmerica, Irvine

Case Narrative

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1
SDG: Omega Chemical

Job ID: 440-248100-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-248100-1

Comments

No additional comments.

Receipt

The samples were received on 8/15/2019 3:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 5.2° C and 5.3° C.

GC/MS VOA

Method(s) 8260B: Surrogate recovery was outside acceptance limits for the following matrix spike (MS) sample: (440-248100-A-6 MS). The MSD and parent sample's surrogate recovery was within limits. The MS sample has been qualified and reported. Matrix interference is suspected.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-563962 recovered above the upper control limit for Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: OC_GW_DPE-4_20190815 (440-248100-2), OC_GW_DPE-7D_20190815 (440-248100-6) and (CCVIS 440-563962/2).

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 440-563962 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS) was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with 8270C preparation batch 440-564093. LCS was performed in duplicate to provide precision of data.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-3_20190815

Lab Sample ID: 440-248100-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	6.8		1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	19		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	4.1		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	15		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	38		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	20		1.0	0.25	ug/L	1		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	290		50	5.0	ug/L	10		8260B	Total/NA
Tetrachloroethene - DL	270		10	2.5	ug/L	10		8260B	Total/NA
1,4-Dioxane	9.4		0.52	0.10	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-4_20190815

Lab Sample ID: 440-248100-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	1.7		1.0	0.25	ug/L	1		8260B	Total/NA
1,1,2-Trichloroethane	0.46	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	18		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	2.0		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	21		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	9.7		1.0	0.25	ug/L	1		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	360		25	2.5	ug/L	5		8260B	Total/NA
Tetrachloroethene - DL	400		5.0	1.3	ug/L	5		8260B	Total/NA
Trichloroethene - RA	38		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	21		0.52	0.10	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-5_20190815

Lab Sample ID: 440-248100-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	11		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	32		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	0.46	J	1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	1.8		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	72		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	9.1		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	8.0		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	4.1		0.51	0.10	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-8_20190815

Lab Sample ID: 440-248100-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	2.3	J	5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	0.48	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	0.25	J	1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	13		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	3.2		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	1.7		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	5.5		0.53	0.11	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-9_20190815

Lab Sample ID: 440-248100-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	16		5.0	0.50	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Irvine

Detection Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-9_20190815 (Continued)

Lab Sample ID: 440-248100-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	11		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	2.2		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	6.5		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	77		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	7.5		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	6.4		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	38		0.54	0.11	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-7D_20190815

Lab Sample ID: 440-248100-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	16	F1	5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	15	F1 F2	1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	56		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	5.4	F2	1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene - RA	30		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.10	J	0.52	0.10	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_DPE-10D_20190815

Lab Sample ID: 440-248100-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloroethane	0.35	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	1.2		1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	66		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	5.2		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	29		1.0	0.25	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.47	J	1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	58		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	43		1.0	0.25	ug/L	1		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	150		50	5.0	ug/L	10		8260B	Total/NA
Tetrachloroethene - DL	520		10	2.5	ug/L	10		8260B	Total/NA
1,4-Dioxane	28		0.52	0.10	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_TB2_20190815

Lab Sample ID: 440-248100-8

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-3_20190815

Lab Sample ID: 440-248100-1

Matrix: Water

Date Collected: 08/15/19 08:42

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	6.8		1.0	0.25	ug/L			08/17/19 01:08	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/17/19 01:08	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/17/19 01:08	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/17/19 01:08	1
1,1-Dichloroethene	19		1.0	0.25	ug/L			08/17/19 01:08	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/17/19 01:08	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/17/19 01:08	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/17/19 01:08	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/17/19 01:08	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/17/19 01:08	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
1,2-Dichloroethane	4.1		1.0	0.25	ug/L			08/17/19 01:08	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/17/19 01:08	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/17/19 01:08	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/17/19 01:08	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
Acetone	ND		10	10	ug/L			08/17/19 01:08	1
Benzene	ND		0.50	0.25	ug/L			08/17/19 01:08	1
Bromobenzene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/17/19 01:08	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/17/19 01:08	1
Bromoform	ND		1.0	0.40	ug/L			08/17/19 01:08	1
Bromomethane	ND		1.0	0.25	ug/L			08/17/19 01:08	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/17/19 01:08	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
Chloroethane	ND		1.0	0.40	ug/L			08/17/19 01:08	1
Chloroform	15		1.0	0.25	ug/L			08/17/19 01:08	1
Chloromethane	ND		1.0	0.25	ug/L			08/17/19 01:08	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 01:08	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/17/19 01:08	1
Dibromomethane	ND		1.0	0.25	ug/L			08/17/19 01:08	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/17/19 01:08	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/17/19 01:08	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/17/19 01:08	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/17/19 01:08	1
Naphthalene	ND		1.0	0.40	ug/L			08/17/19 01:08	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/17/19 01:08	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
o-Xylene	ND		1.0	0.25	ug/L			08/17/19 01:08	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-3_20190815**Lab Sample ID: 440-248100-1**

Matrix: Water

Date Collected: 08/15/19 08:42

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
Styrene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
Toluene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 01:08	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 01:08	1
Trichloroethene	38		1.0	0.25	ug/L			08/17/19 01:08	1
Trichlorofluoromethane	20		1.0	0.25	ug/L			08/17/19 01:08	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/17/19 01:08	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/17/19 01:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		70 - 130					08/17/19 01:08	1
4-Bromofluorobenzene (Surr)	96		80 - 120					08/17/19 01:08	1
Dibromofluoromethane (Surr)	117		76 - 132					08/17/19 01:08	1
Toluene-d8 (Surr)	96		80 - 128					08/17/19 01:08	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	290		50	5.0	ug/L			08/17/19 18:40	10
Tetrachloroethene	270		10	2.5	ug/L			08/17/19 18:40	10
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/17/19 18:40	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		70 - 130					08/17/19 18:40	10
4-Bromofluorobenzene (Surr)	101		80 - 120					08/17/19 18:40	10
Dibromofluoromethane (Surr)	114		76 - 132					08/17/19 18:40	10
Toluene-d8 (Surr)	95		80 - 128					08/17/19 18:40	10

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/28/19 00:50	1
Isopropyl alcohol	ND		250	180	ug/L			08/28/19 00:50	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/28/19 00:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 130					08/28/19 00:50	1
4-Bromofluorobenzene (Surr)	104		80 - 120					08/28/19 00:50	1
Dibromofluoromethane (Surr)	99		76 - 132					08/28/19 00:50	1
Toluene-d8 (Surr)	99		80 - 128					08/28/19 00:50	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	9.4		0.52	0.10	ug/L		08/19/19 13:18	08/20/19 14:45	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-3_20190815

Lab Sample ID: 440-248100-1

Matrix: Water

Date Collected: 08/15/19 08:42
 Date Received: 08/15/19 15:45

Surrogate	%Recovery	Qualifier	Limits
1,4-Dioxane-d8 (Surr)	55		27 - 120

Prepared	Analyzed	Dil Fac
08/19/19 13:18	08/20/19 14:45	1

Client Sample ID: OC_GW_DPE-4_20190815

Lab Sample ID: 440-248100-2

Matrix: Water

Date Collected: 08/15/19 08:56
 Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/19/19 12:36	1
1,1,1-Trichloroethane	1.7		1.0	0.25	ug/L			08/19/19 12:36	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/19/19 12:36	1
1,1,2-Trichloroethane	0.46 J		1.0	0.25	ug/L			08/19/19 12:36	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/19/19 12:36	1
1,1-Dichloroethene	18		1.0	0.25	ug/L			08/19/19 12:36	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/19/19 12:36	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/19/19 12:36	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/19/19 12:36	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/19/19 12:36	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/19/19 12:36	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
1,2-Dichloroethane	2.0		1.0	0.25	ug/L			08/19/19 12:36	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/19/19 12:36	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/19/19 12:36	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/19/19 12:36	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
Acetone	ND		10	10	ug/L			08/19/19 12:36	1
Benzene	ND		0.50	0.25	ug/L			08/19/19 12:36	1
Bromobenzene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/19/19 12:36	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/19/19 12:36	1
Bromoform	ND		1.0	0.40	ug/L			08/19/19 12:36	1
Bromomethane	ND		1.0	0.25	ug/L			08/19/19 12:36	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/19/19 12:36	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
Chloroethane	ND		1.0	0.40	ug/L			08/19/19 12:36	1
Chloroform	21		1.0	0.25	ug/L			08/19/19 12:36	1
Chloromethane	ND		1.0	0.25	ug/L			08/19/19 12:36	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/19/19 12:36	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/19/19 12:36	1
Dibromomethane	ND		1.0	0.25	ug/L			08/19/19 12:36	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/19/19 12:36	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/19/19 12:36	1

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-4_20190815

Lab Sample ID: 440-248100-2

Matrix: Water

Date Collected: 08/15/19 08:56
 Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/19/19 12:36	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/19/19 12:36	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/19/19 12:36	1
Naphthalene	ND		1.0	0.40	ug/L			08/19/19 12:36	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/19/19 12:36	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
o-Xylene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
Styrene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
Toluene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 12:36	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/19/19 12:36	1
Trichlorofluoromethane	9.7		1.0	0.25	ug/L			08/19/19 12:36	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/19/19 12:36	1

Tentatively Identified Compound

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	430	T J	ug/L		2.24			08/19/19 12:36	1
Unknown	6.9	T J	ug/L		2.96			08/19/19 12:36	1
Unknown	24	T J	ug/L		16.49			08/19/19 12:36	1

Surrogate

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		70 - 130		08/19/19 12:36	1
4-Bromofluorobenzene (Surr)	105		80 - 120		08/19/19 12:36	1
Dibromofluoromethane (Surr)	116		76 - 132		08/19/19 12:36	1
Toluene-d8 (Surr)	98		80 - 128		08/19/19 12:36	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	360		25	2.5	ug/L			08/19/19 13:04	5
Tetrachloroethene	400		5.0	1.3	ug/L			08/19/19 13:04	5

Tentatively Identified Compound

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	1200	T J	ug/L		2.25			08/19/19 13:04	5
Unknown	26	T J	ug/L		2.97			08/19/19 13:04	5
Unknown	100	T J	ug/L		16.46			08/19/19 13:04	5

Surrogate

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	73		70 - 130		08/19/19 13:04	5
4-Bromofluorobenzene (Surr)	89		80 - 120		08/19/19 13:04	5
Dibromofluoromethane (Surr)	97		76 - 132		08/19/19 13:04	5
Toluene-d8 (Surr)	109		80 - 128		08/19/19 13:04	5

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/20/19 12:04	1
Trichloroethene	38		1.0	0.25	ug/L			08/20/19 12:04	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-4_20190815

Lab Sample ID: 440-248100-2

Matrix: Water

Date Collected: 08/15/19 08:56

Date Received: 08/15/19 15:45

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	400	T J	ug/L		2.26			08/20/19 12:04	1
Unknown	2.5	T J	ug/L		2.96			08/20/19 12:04	1
Unknown	17	T J	ug/L		14.45			08/20/19 12:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	70		70 - 130					08/20/19 12:04	1
4-Bromofluorobenzene (Surr)	95		80 - 120					08/20/19 12:04	1
Dibromofluoromethane (Surr)	93		76 - 132					08/20/19 12:04	1
Toluene-d8 (Surr)	90		80 - 128					08/20/19 12:04	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	21		0.52	0.10	ug/L		08/19/19 13:18	08/20/19 15:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	49		27 - 120				08/19/19 13:18	08/20/19 15:06	1

Client Sample ID: OC_GW_DPE-5_20190815

Lab Sample ID: 440-248100-3

Matrix: Water

Date Collected: 08/15/19 10:05

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/17/19 01:34	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/17/19 01:34	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/17/19 01:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	11		5.0	0.50	ug/L			08/17/19 01:34	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/17/19 01:34	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/17/19 01:34	1
1,1-Dichloroethene	32		1.0	0.25	ug/L			08/17/19 01:34	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/17/19 01:34	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/17/19 01:34	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/17/19 01:34	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/17/19 01:34	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/17/19 01:34	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
1,2-Dichloroethane	0.46 J		1.0	0.25	ug/L			08/17/19 01:34	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/17/19 01:34	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/17/19 01:34	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/17/19 01:34	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
Acetone	ND		10	10	ug/L			08/17/19 01:34	1
Benzene	ND		0.50	0.25	ug/L			08/17/19 01:34	1
Bromobenzene	ND		1.0	0.25	ug/L			08/17/19 01:34	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-5_20190815

Lab Sample ID: 440-248100-3

Matrix: Water

Date Collected: 08/15/19 10:05

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	ND		1.0	0.25	ug/L			08/17/19 01:34	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/17/19 01:34	1
Bromoform	ND		1.0	0.40	ug/L			08/17/19 01:34	1
Bromomethane	ND		1.0	0.25	ug/L			08/17/19 01:34	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/17/19 01:34	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
Chloroethane	ND		1.0	0.40	ug/L			08/17/19 01:34	1
Chloroform	1.8		1.0	0.25	ug/L			08/17/19 01:34	1
Chloromethane	ND		1.0	0.25	ug/L			08/17/19 01:34	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 01:34	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/17/19 01:34	1
Dibromomethane	ND		1.0	0.25	ug/L			08/17/19 01:34	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/17/19 01:34	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/17/19 01:34	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/17/19 01:34	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/17/19 01:34	1
Naphthalene	ND		1.0	0.40	ug/L			08/17/19 01:34	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/17/19 01:34	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
o-Xylene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
Styrene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
Tetrachloroethene	72		1.0	0.25	ug/L			08/17/19 01:34	1
Toluene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 01:34	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 01:34	1
Trichloroethene	9.1		1.0	0.25	ug/L			08/17/19 01:34	1
Trichlorofluoromethane	8.0		1.0	0.25	ug/L			08/17/19 01:34	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/17/19 01:34	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/17/19 01:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	125		70 - 130		08/17/19 01:34	1
4-Bromofluorobenzene (Surr)	97		80 - 120		08/17/19 01:34	1
Dibromofluoromethane (Surr)	113		76 - 132		08/17/19 01:34	1
Toluene-d8 (Surr)	99		80 - 128		08/17/19 01:34	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/28/19 01:17	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-5_20190815

Lab Sample ID: 440-248100-3

Matrix: Water

Date Collected: 08/15/19 10:05

Date Received: 08/15/19 15:45

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/28/19 01:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 130					08/28/19 01:17	1
4-Bromofluorobenzene (Surr)	99		80 - 120					08/28/19 01:17	1
Dibromofluoromethane (Surr)	100		76 - 132					08/28/19 01:17	1
Toluene-d8 (Surr)	97		80 - 128					08/28/19 01:17	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.1		0.51	0.10	ug/L		08/19/19 13:18	08/20/19 15:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	53		27 - 120				08/19/19 13:18	08/20/19 15:28	1

Client Sample ID: OC_GW_DPE-8_20190815

Lab Sample ID: 440-248100-4

Matrix: Water

Date Collected: 08/15/19 08:23

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/17/19 02:01	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/17/19 02:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/17/19 02:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	2.3 J		5.0	0.50	ug/L			08/17/19 02:01	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/17/19 02:01	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/17/19 02:01	1
1,1-Dichloroethene	0.48 J		1.0	0.25	ug/L			08/17/19 02:01	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/17/19 02:01	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/17/19 02:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/17/19 02:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/17/19 02:01	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/17/19 02:01	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
1,2-Dichloroethane	0.25 J		1.0	0.25	ug/L			08/17/19 02:01	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/17/19 02:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/17/19 02:01	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/17/19 02:01	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
Acetone	ND		10	10	ug/L			08/17/19 02:01	1
Benzene	ND		0.50	0.25	ug/L			08/17/19 02:01	1
Bromobenzene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/17/19 02:01	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/17/19 02:01	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-8_20190815

Lab Sample ID: 440-248100-4

Matrix: Water

Date Collected: 08/15/19 08:23

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		1.0	0.40	ug/L			08/17/19 02:01	1
Bromomethane	ND		1.0	0.25	ug/L			08/17/19 02:01	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/17/19 02:01	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
Chloroethane	ND		1.0	0.40	ug/L			08/17/19 02:01	1
Chloroform	ND		1.0	0.25	ug/L			08/17/19 02:01	1
Chloromethane	ND		1.0	0.25	ug/L			08/17/19 02:01	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 02:01	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/17/19 02:01	1
Dibromomethane	ND		1.0	0.25	ug/L			08/17/19 02:01	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/17/19 02:01	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/17/19 02:01	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/17/19 02:01	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/17/19 02:01	1
Naphthalene	ND		1.0	0.40	ug/L			08/17/19 02:01	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/17/19 02:01	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
o-Xylene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
Styrene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
Tetrachloroethene	13		1.0	0.25	ug/L			08/17/19 02:01	1
Toluene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 02:01	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 02:01	1
Trichloroethene	3.2		1.0	0.25	ug/L			08/17/19 02:01	1
Trichlorofluoromethane	1.7		1.0	0.25	ug/L			08/17/19 02:01	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/17/19 02:01	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/17/19 02:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		70 - 130					08/17/19 02:01	1
4-Bromofluorobenzene (Surr)	95		80 - 120					08/17/19 02:01	1
Dibromofluoromethane (Surr)	117		76 - 132					08/17/19 02:01	1
Toluene-d8 (Surr)	100		80 - 128					08/17/19 02:01	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/28/19 01:43	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/28/19 01:43	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-8_20190815

Lab Sample ID: 440-248100-4

Matrix: Water

Date Collected: 08/15/19 08:23

Date Received: 08/15/19 15:45

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 130		08/28/19 01:43	1
4-Bromofluorobenzene (Surr)	101		80 - 120		08/28/19 01:43	1
Dibromofluoromethane (Surr)	105		76 - 132		08/28/19 01:43	1
Toluene-d8 (Surr)	100		80 - 128		08/28/19 01:43	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	5.5		0.53	0.11	ug/L	D	08/19/19 13:18	08/20/19 15:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	55		27 - 120				08/19/19 13:18	08/20/19 15:50	1

Client Sample ID: OC_GW_DPE-9_20190815

Lab Sample ID: 440-248100-5

Matrix: Water

Date Collected: 08/15/19 09:20

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L		08/17/19 02:27		1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L		08/17/19 02:27		1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L		08/17/19 02:27		1
1,1,2-Trichloro-1,2,2-trifluoroethane	16		5.0	0.50	ug/L		08/17/19 02:27		1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L		08/17/19 02:27		1
1,1-Dichloroethane	ND		1.0	0.25	ug/L		08/17/19 02:27		1
1,1-Dichloroethene	11		1.0	0.25	ug/L		08/17/19 02:27		1
1,1-Dichloropropene	ND		1.0	0.25	ug/L		08/17/19 02:27		1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L		08/17/19 02:27		1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L		08/17/19 02:27		1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L		08/17/19 02:27		1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L		08/17/19 02:27		1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L		08/17/19 02:27		1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L		08/17/19 02:27		1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L		08/17/19 02:27		1
1,2-Dichloroethane	2.2		1.0	0.25	ug/L		08/17/19 02:27		1
1,2-Dichloropropene	ND		1.0	0.25	ug/L		08/17/19 02:27		1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L		08/17/19 02:27		1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L		08/17/19 02:27		1
1,3-Dichloropropane	ND		1.0	0.25	ug/L		08/17/19 02:27		1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L		08/17/19 02:27		1
2,2-Dichloropropane	ND		1.0	0.40	ug/L		08/17/19 02:27		1
2-Chlorotoluene	ND		1.0	0.25	ug/L		08/17/19 02:27		1
4-Chlorotoluene	ND		1.0	0.25	ug/L		08/17/19 02:27		1
Acetone	ND		10	10	ug/L		08/17/19 02:27		1
Benzene	ND		0.50	0.25	ug/L		08/17/19 02:27		1
Bromobenzene	ND		1.0	0.25	ug/L		08/17/19 02:27		1
Bromochloromethane	ND		1.0	0.25	ug/L		08/17/19 02:27		1
Bromodichloromethane	ND		1.0	0.25	ug/L		08/17/19 02:27		1
Bromoform	ND		1.0	0.40	ug/L		08/17/19 02:27		1
Bromomethane	ND		1.0	0.25	ug/L		08/17/19 02:27		1
Carbon tetrachloride	ND		0.50	0.25	ug/L		08/17/19 02:27		1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-9_20190815**Lab Sample ID: 440-248100-5**

Matrix: Water

Date Collected: 08/15/19 09:20

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		1.0	0.25	ug/L			08/17/19 02:27	1
Chloroethane	ND		1.0	0.40	ug/L			08/17/19 02:27	1
Chloroform	6.5		1.0	0.25	ug/L			08/17/19 02:27	1
Chloromethane	ND		1.0	0.25	ug/L			08/17/19 02:27	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 02:27	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 02:27	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/17/19 02:27	1
Dibromomethane	ND		1.0	0.25	ug/L			08/17/19 02:27	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/17/19 02:27	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:27	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/17/19 02:27	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:27	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/17/19 02:27	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/17/19 02:27	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/17/19 02:27	1
Naphthalene	ND		1.0	0.40	ug/L			08/17/19 02:27	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/17/19 02:27	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:27	1
o-Xylene	ND		1.0	0.25	ug/L			08/17/19 02:27	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/17/19 02:27	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:27	1
Styrene	ND		1.0	0.25	ug/L			08/17/19 02:27	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:27	1
Tetrachloroethene	77		1.0	0.25	ug/L			08/17/19 02:27	1
Toluene	ND		1.0	0.25	ug/L			08/17/19 02:27	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 02:27	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 02:27	1
Trichloroethene	7.5		1.0	0.25	ug/L			08/17/19 02:27	1
Trichlorofluoromethane	6.4		1.0	0.25	ug/L			08/17/19 02:27	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/17/19 02:27	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/17/19 02:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	127		70 - 130		08/17/19 02:27	1
4-Bromofluorobenzene (Surr)	97		80 - 120		08/17/19 02:27	1
Dibromofluoromethane (Surr)	116		76 - 132		08/17/19 02:27	1
Toluene-d8 (Surr)	96		80 - 128		08/17/19 02:27	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/28/19 02:09	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/28/19 02:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 130		08/28/19 02:09	1
4-Bromofluorobenzene (Surr)	98		80 - 120		08/28/19 02:09	1
Dibromofluoromethane (Surr)	99		76 - 132		08/28/19 02:09	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-9_20190815

Lab Sample ID: 440-248100-5

Matrix: Water

Date Collected: 08/15/19 09:20

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	98		80 - 128	08/28/19 02:09		1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	38		0.54	0.11	ug/L	D	08/19/19 13:18	08/20/19 16:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	59		27 - 120				08/19/19 13:18	08/20/19 16:12	1

Client Sample ID: OC_GW_DPE-7D_20190815

Lab Sample ID: 440-248100-6

Matrix: Water

Date Collected: 08/15/19 11:00

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/19/19 11:14	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/19/19 11:14	1
1,1,2,2-Tetrachloroethane	ND	F1	1.0	0.25	ug/L			08/19/19 11:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	16	F1	5.0	0.50	ug/L			08/19/19 11:14	1
1,1,2-Trichloroethane	ND	F2	1.0	0.25	ug/L			08/19/19 11:14	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/19/19 11:14	1
1,1-Dichloroethene	15	F1 F2	1.0	0.25	ug/L			08/19/19 11:14	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/19/19 11:14	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/19/19 11:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/19/19 11:14	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/19/19 11:14	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/19/19 11:14	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/19/19 11:14	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/19/19 11:14	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/19/19 11:14	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/19/19 11:14	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
Acetone	ND		10	10	ug/L			08/19/19 11:14	1
Benzene	ND		0.50	0.25	ug/L			08/19/19 11:14	1
Bromobenzene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/19/19 11:14	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/19/19 11:14	1
Bromoform	ND		1.0	0.40	ug/L			08/19/19 11:14	1
Bromomethane	ND	F1	1.0	0.25	ug/L			08/19/19 11:14	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/19/19 11:14	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
Chloroethane	ND	F1	1.0	0.40	ug/L			08/19/19 11:14	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-7D_20190815

Lab Sample ID: 440-248100-6

Matrix: Water

Date Collected: 08/15/19 11:00

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		1.0	0.25	ug/L			08/19/19 11:14	1
Chloromethane	ND		1.0	0.25	ug/L			08/19/19 11:14	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/19/19 11:14	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/19/19 11:14	1
Dibromomethane	ND		1.0	0.25	ug/L			08/19/19 11:14	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/19/19 11:14	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/19/19 11:14	1
Methylene Chloride	ND	F2	5.0	0.88	ug/L			08/19/19 11:14	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/19/19 11:14	1
Naphthalene	ND		1.0	0.40	ug/L			08/19/19 11:14	1
n-Butylbenzene	ND	F2	1.0	0.40	ug/L			08/19/19 11:14	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
o-Xylene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
Styrene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
Tetrachloroethene	56		1.0	0.25	ug/L			08/19/19 11:14	1
Toluene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 11:14	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/19/19 11:14	1
Trichlorofluoromethane	5.4	F2	1.0	0.25	ug/L			08/19/19 11:14	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/19/19 11:14	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	450	T J	ug/L		2.25			08/19/19 11:14	1
Dichlorofluoromethane	1.3	F1	ug/L		3.64	75-43-4		08/19/19 11:14	1
1,2-Dichloro-1,1,2-trifluoroethane	4.1		ug/L		4.06	354-23-4		08/19/19 11:14	1
Unknown	18	T J	ug/L		16.68			08/19/19 11:14	1

Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	75		70 - 130				08/19/19 11:14	1
4-Bromofluorobenzene (Surr)	94		80 - 120				08/19/19 11:14	1
Dibromofluoromethane (Surr)	97		76 - 132				08/19/19 11:14	1
Toluene-d8 (Surr)	106		80 - 128				08/19/19 11:14	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/20/19 11:37	1
Trichloroethene	30		1.0	0.25	ug/L			08/20/19 11:37	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	430	T J	ug/L		2.24			08/20/19 11:37	1
Unknown	3.6	T J	ug/L		2.96			08/20/19 11:37	1
Unknown	22	T J	ug/L		14.45			08/20/19 11:37	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-7D_20190815

Lab Sample ID: 440-248100-6

Matrix: Water

Date Collected: 08/15/19 11:00

Date Received: 08/15/19 15:45

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	73		70 - 130		08/20/19 11:37	1
4-Bromofluorobenzene (Surr)	91		80 - 120		08/20/19 11:37	1
Dibromofluoromethane (Surr)	86		76 - 132		08/20/19 11:37	1
Toluene-d8 (Surr)	89		80 - 128		08/20/19 11:37	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.10	J	0.52	0.10	ug/L	D	08/19/19 13:18	08/20/19 16:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	64		27 - 120				08/19/19 13:18	08/20/19 16:34	1

Client Sample ID: OC_GW_DPE-10D_20190815

Lab Sample ID: 440-248100-7

Matrix: Water

Date Collected: 08/15/19 10:30

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L		08/17/19 02:53		1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L		08/17/19 02:53		1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L		08/17/19 02:53		1
1,1,2-Trichloroethane	0.35	J	1.0	0.25	ug/L		08/17/19 02:53		1
1,1-Dichloroethane	1.2		1.0	0.25	ug/L		08/17/19 02:53		1
1,1-Dichloroethene	66		1.0	0.25	ug/L		08/17/19 02:53		1
1,1-Dichloropropene	ND		1.0	0.25	ug/L		08/17/19 02:53		1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L		08/17/19 02:53		1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L		08/17/19 02:53		1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L		08/17/19 02:53		1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L		08/17/19 02:53		1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L		08/17/19 02:53		1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L		08/17/19 02:53		1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L		08/17/19 02:53		1
1,2-Dichloroethane	5.2		1.0	0.25	ug/L		08/17/19 02:53		1
1,2-Dichloropropane	ND		1.0	0.25	ug/L		08/17/19 02:53		1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L		08/17/19 02:53		1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L		08/17/19 02:53		1
1,3-Dichloropropane	ND		1.0	0.25	ug/L		08/17/19 02:53		1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L		08/17/19 02:53		1
2,2-Dichloropropane	ND		1.0	0.40	ug/L		08/17/19 02:53		1
2-Chlorotoluene	ND		1.0	0.25	ug/L		08/17/19 02:53		1
4-Chlorotoluene	ND		1.0	0.25	ug/L		08/17/19 02:53		1
Acetone	ND		10	10	ug/L		08/17/19 02:53		1
Benzene	ND		0.50	0.25	ug/L		08/17/19 02:53		1
Bromobenzene	ND		1.0	0.25	ug/L		08/17/19 02:53		1
Bromochloromethane	ND		1.0	0.25	ug/L		08/17/19 02:53		1
Bromodichloromethane	ND		1.0	0.25	ug/L		08/17/19 02:53		1
Bromoform	ND		1.0	0.40	ug/L		08/17/19 02:53		1
Bromomethane	ND		1.0	0.25	ug/L		08/17/19 02:53		1
Carbon tetrachloride	ND		0.50	0.25	ug/L		08/17/19 02:53		1
Chlorobenzene	ND		1.0	0.25	ug/L		08/17/19 02:53		1
Chloroethane	ND		1.0	0.40	ug/L		08/17/19 02:53		1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-10D_20190815

Lab Sample ID: 440-248100-7

Matrix: Water

Date Collected: 08/15/19 10:30

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	29		1.0	0.25	ug/L			08/17/19 02:53	1
Chloromethane	ND		1.0	0.25	ug/L			08/17/19 02:53	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 02:53	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 02:53	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/17/19 02:53	1
Dibromomethane	ND		1.0	0.25	ug/L			08/17/19 02:53	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/17/19 02:53	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:53	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/17/19 02:53	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:53	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/17/19 02:53	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/17/19 02:53	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/17/19 02:53	1
Naphthalene	ND		1.0	0.40	ug/L			08/17/19 02:53	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/17/19 02:53	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:53	1
o-Xylene	ND		1.0	0.25	ug/L			08/17/19 02:53	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/17/19 02:53	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:53	1
Styrene	ND		1.0	0.25	ug/L			08/17/19 02:53	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 02:53	1
Toluene	ND		1.0	0.25	ug/L			08/17/19 02:53	1
trans-1,2-Dichloroethene	0.47	J	1.0	0.25	ug/L			08/17/19 02:53	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 02:53	1
Trichloroethene	58		1.0	0.25	ug/L			08/17/19 02:53	1
Trichlorofluoromethane	43		1.0	0.25	ug/L			08/17/19 02:53	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/17/19 02:53	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/17/19 02:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	127		70 - 130					08/17/19 02:53	1
4-Bromofluorobenzene (Surr)	94		80 - 120					08/17/19 02:53	1
Dibromofluoromethane (Surr)	119		76 - 132					08/17/19 02:53	1
Toluene-d8 (Surr)	95		80 - 128					08/17/19 02:53	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	150		50	5.0	ug/L			08/17/19 19:10	10
Tetrachloroethene	520		10	2.5	ug/L			08/17/19 19:10	10
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/17/19 19:10	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	123		70 - 130					08/17/19 19:10	10
4-Bromofluorobenzene (Surr)	98		80 - 120					08/17/19 19:10	10
Dibromofluoromethane (Surr)	118		76 - 132					08/17/19 19:10	10
Toluene-d8 (Surr)	93		80 - 128					08/17/19 19:10	10

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1
SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-10D_20190815

Lab Sample ID: 440-248100-7

Matrix: Water

Date Collected: 08/15/19 10:30

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/28/19 02:36	1
Tentatively Identified Compound	Est. Result	Qualifier				D	RT	CAS No.	Prepared
<i>Tentatively Identified Compound</i>	None				ug/L				08/28/19 02:36
Surrogate	%Recovery	Qualifier			Limits			Prepared	Analyzed
1,2-Dichloroethane-d4 (Surr)	95			70 - 130					08/28/19 02:36
4-Bromofluorobenzene (Surr)	102			80 - 120					08/28/19 02:36
Dibromofluoromethane (Surr)	99			76 - 132					08/28/19 02:36
Toluene-d8 (Surr)	100			80 - 128					08/28/19 02:36

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	28		0.52	0.10	ug/L			08/20/19 16:56	1
Surrogate	%Recovery	Qualifier			Limits				
1,4-Dioxane-d8 (Surr)	56			27 - 120					1

Client Sample ID: OC_TB2_20190815

Lab Sample ID: 440-248100-8

Matrix: Water

Date Collected: 08/15/19 07:00

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/17/19 03:20	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/17/19 03:20	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/17/19 03:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/17/19 03:20	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/17/19 03:20	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/17/19 03:20	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/17/19 03:20	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/17/19 03:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/17/19 03:20	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/17/19 03:20	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/17/19 03:20	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/17/19 03:20	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/17/19 03:20	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/17/19 03:20	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/17/19 03:20	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
Acetone	ND		10	10	ug/L			08/17/19 03:20	1
Benzene	ND		0.50	0.25	ug/L			08/17/19 03:20	1
Bromobenzene	ND		1.0	0.25	ug/L			08/17/19 03:20	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Client Sample ID: OC_TB2_20190815

Lab Sample ID: 440-248100-8

Matrix: Water

Date Collected: 08/15/19 07:00

Date Received: 08/15/19 15:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	ND		1.0	0.25	ug/L			08/17/19 03:20	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/17/19 03:20	1
Bromoform	ND		1.0	0.40	ug/L			08/17/19 03:20	1
Bromomethane	ND		1.0	0.25	ug/L			08/17/19 03:20	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/17/19 03:20	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
Chloroethane	ND		1.0	0.40	ug/L			08/17/19 03:20	1
Chloroform	ND		1.0	0.25	ug/L			08/17/19 03:20	1
Chloromethane	ND		1.0	0.25	ug/L			08/17/19 03:20	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 03:20	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/17/19 03:20	1
Dibromomethane	ND		1.0	0.25	ug/L			08/17/19 03:20	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/17/19 03:20	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/17/19 03:20	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/17/19 03:20	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/17/19 03:20	1
Naphthalene	ND		1.0	0.40	ug/L			08/17/19 03:20	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/17/19 03:20	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
o-Xylene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
Styrene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
Toluene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/17/19 03:20	1
Trichloroethene	ND		1.0	0.25	ug/L			08/17/19 03:20	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/17/19 03:20	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/17/19 03:20	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/17/19 03:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	128		70 - 130		08/17/19 03:20	1
4-Bromofluorobenzene (Surr)	95		80 - 120		08/17/19 03:20	1
Dibromofluoromethane (Surr)	118		76 - 132		08/17/19 03:20	1
Toluene-d8 (Surr)	96		80 - 128		08/17/19 03:20	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/28/19 03:02	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/19/19 10:47	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Client Sample ID: OC_TB2_20190815

Lab Sample ID: 440-248100-8

Matrix: Water

Date Collected: 08/15/19 07:00

Date Received: 08/15/19 15:45

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/28/19 03:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	70		70 - 130					08/19/19 10:47	1
1,2-Dichloroethane-d4 (Surr)	88		70 - 130					08/28/19 03:02	1
4-Bromofluorobenzene (Surr)	96		80 - 120					08/19/19 10:47	1
4-Bromofluorobenzene (Surr)	100		80 - 120					08/28/19 03:02	1
Dibromofluoromethane (Surr)	93		76 - 132					08/19/19 10:47	1
Dibromofluoromethane (Surr)	97		76 - 132					08/28/19 03:02	1
Toluene-d8 (Surr)	112		80 - 128					08/19/19 10:47	1
Toluene-d8 (Surr)	96		80 - 128					08/28/19 03:02	1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-247942-C-5 MS	Matrix Spike	112	94	113	98
440-247942-C-5 MSD	Matrix Spike Duplicate	116	92	113	97
440-248097-A-1 MS	Matrix Spike	94	101	99	97
440-248097-A-1 MSD	Matrix Spike Duplicate	93	97	97	99
440-248098-B-1 MS	Matrix Spike	76	95	96	105
440-248098-B-1 MSD	Matrix Spike Duplicate	71	100	92	100
440-248100-1	OC_GW_DPE-3_20190815	124	96	117	96
440-248100-1 - DL	OC_GW_DPE-3_20190815	121	101	114	95
440-248100-1 - RA	OC_GW_DPE-3_20190815	93	104	99	99
440-248100-2	OC_GW_DPE-4_20190815	90	105	116	98
440-248100-2 - DL	OC_GW_DPE-4_20190815	73	89	97	109
440-248100-2 - RA	OC_GW_DPE-4_20190815	70	95	93	90
440-248100-3	OC_GW_DPE-5_20190815	125	97	113	99
440-248100-3 - RA	OC_GW_DPE-5_20190815	93	99	100	97
440-248100-4	OC_GW_DPE-8_20190815	121	95	117	100
440-248100-4 - RA	OC_GW_DPE-8_20190815	96	101	105	100
440-248100-5	OC_GW_DPE-9_20190815	127	97	116	96
440-248100-5 - RA	OC_GW_DPE-9_20190815	95	98	99	98
440-248100-6	OC_GW_DPE-7D_20190815	75	94	97	106
440-248100-6 - RA	OC_GW_DPE-7D_20190815	73	91	86	89
440-248100-6 MS	OC_GW_DPE-7D_20190815	101	94	118	78 X
440-248100-6 MSD	OC_GW_DPE-7D_20190815	97	102	107	98
440-248100-7	OC_GW_DPE-10D_20190815	127	94	119	95
440-248100-7 - DL	OC_GW_DPE-10D_20190815	123	98	118	93
440-248100-7 - RA	OC_GW_DPE-10D_20190815	95	102	99	100
440-248100-8	OC_TB2_20190815	128	95	118	96
440-248100-8 - RA	OC_TB2_20190815	70	96	93	112
440-248100-8 - RA	OC_TB2_20190815	88	100	97	96
550-127983-B-1 MS	Matrix Spike	120	100	104	90
550-127983-B-1 MSD	Matrix Spike Duplicate	117	101	105	89
LCS 440-563745/7	Lab Control Sample	111	96	112	92
LCS 440-563832/5	Lab Control Sample	110	104	103	90
LCS 440-563962/5	Lab Control Sample	90	98	115	104
LCS 440-564207/1003	Lab Control Sample	82	96	99	105
LCS 440-564207/5	Lab Control Sample	86	82	103	100
LCS 440-565761/1003	Lab Control Sample	90	97	100	100
LCSD 440-563832/6	Lab Control Sample Dup	112	103	104	89
LCSD 440-564207/6	Lab Control Sample Dup	83	90	89	94
MB 440-563745/5	Method Blank	114	96	112	99
MB 440-563832/4	Method Blank	105	103	105	100
MB 440-563962/4	Method Blank	94	106	121	89
MB 440-564207/4	Method Blank	81	108	80	104
MB 440-565761/4	Method Blank	93	94	97	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Eurofins TestAmerica, Irvine

Surrogate Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	DXE (27-120)	Percent Surrogate Recovery (Acceptance Limits)											
			55	56	57	58	59	60	61	62	63	64	65	66
440-248100-1	OC_GW_DPE-3_20190815	55												
440-248100-2	OC_GW_DPE-4_20190815	49												
440-248100-3	OC_GW_DPE-5_20190815	53												
440-248100-4	OC_GW_DPE-8_20190815	55												
440-248100-5	OC_GW_DPE-9_20190815	59												
440-248100-6	OC_GW_DPE-7D_20190815	64												
440-248100-7	OC_GW_DPE-10D_20190815	56												
LCS 440-564093/2-A	Lab Control Sample	60												
LCSD 440-564093/3-A	Lab Control Sample Dup	61												
MB 440-564093/1-A	Method Blank	57												

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-3_20190815

Lab Sample ID: 440-248100-1

Matrix: Water

Date Collected: 08/15/19 08:42
 Date Received: 08/15/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563745	08/17/19 01:08	GMA	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565761	08/28/19 00:50	WC	TAL IRV
Total/NA	Analysis	8260B	DL	10	10 mL	10 mL	563832	08/17/19 18:40	AYL	TAL IRV
Total/NA	Prep	3520C			970 mL	1.0 mL	564093	08/19/19 13:18	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564299	08/20/19 14:45	HN	TAL IRV

Client Sample ID: OC_GW_DPE-4_20190815

Lab Sample ID: 440-248100-2

Matrix: Water

Date Collected: 08/15/19 08:56
 Date Received: 08/15/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563962	08/19/19 12:36	RM	TAL IRV
Total/NA	Analysis	8260B	DL	5	10 mL	10 mL	563962	08/19/19 13:04	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	564207	08/20/19 12:04	JB	TAL IRV
Total/NA	Prep	3520C			965 mL	1.0 mL	564093	08/19/19 13:18	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564299	08/20/19 15:06	HN	TAL IRV

Client Sample ID: OC_GW_DPE-5_20190815

Lab Sample ID: 440-248100-3

Matrix: Water

Date Collected: 08/15/19 10:05
 Date Received: 08/15/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563745	08/17/19 01:34	GMA	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565761	08/28/19 01:17	WC	TAL IRV
Total/NA	Prep	3520C			975 mL	1.0 mL	564093	08/19/19 13:18	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564299	08/20/19 15:28	HN	TAL IRV

Client Sample ID: OC_GW_DPE-8_20190815

Lab Sample ID: 440-248100-4

Matrix: Water

Date Collected: 08/15/19 08:23
 Date Received: 08/15/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563745	08/17/19 02:01	GMA	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565761	08/28/19 01:43	WC	TAL IRV
Total/NA	Prep	3520C			945 mL	1.0 mL	564093	08/19/19 13:18	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564299	08/20/19 15:50	HN	TAL IRV

Client Sample ID: OC_GW_DPE-9_20190815

Lab Sample ID: 440-248100-5

Matrix: Water

Date Collected: 08/15/19 09:20
 Date Received: 08/15/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563745	08/17/19 02:27	GMA	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565761	08/28/19 02:09	WC	TAL IRV

Eurofins TestAmerica, Irvine

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_DPE-9_20190815

Lab Sample ID: 440-248100-5

Matrix: Water

Date Collected: 08/15/19 09:20

Date Received: 08/15/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			920 mL	1.0 mL	564093	08/19/19 13:18	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564299	08/20/19 16:12	HN	TAL IRV

Client Sample ID: OC_GW_DPE-7D_20190815

Lab Sample ID: 440-248100-6

Matrix: Water

Date Collected: 08/15/19 11:00

Date Received: 08/15/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563962	08/19/19 11:14	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	564207	08/20/19 11:37	JB	TAL IRV
Total/NA	Prep	3520C			955 mL	1.0 mL	564093	08/19/19 13:18	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564299	08/20/19 16:34	HN	TAL IRV

Client Sample ID: OC_GW_DPE-10D_20190815

Lab Sample ID: 440-248100-7

Matrix: Water

Date Collected: 08/15/19 10:30

Date Received: 08/15/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563745	08/17/19 02:53	GMA	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565761	08/28/19 02:36	WC	TAL IRV
Total/NA	Analysis	8260B	DL	10	10 mL	10 mL	563832	08/17/19 19:10	AYL	TAL IRV
Total/NA	Prep	3520C			955 mL	1.0 mL	564093	08/19/19 13:18	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564299	08/20/19 16:56	HN	TAL IRV

Client Sample ID: OC_TB2_20190815

Lab Sample ID: 440-248100-8

Matrix: Water

Date Collected: 08/15/19 07:00

Date Received: 08/15/19 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563745	08/17/19 03:20	GMA	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565761	08/28/19 03:02	WC	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	563962	08/19/19 10:47	RM	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-563745/5

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/16/19 19:25	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/16/19 19:25	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/16/19 19:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/16/19 19:25	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/16/19 19:25	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/16/19 19:25	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Acetone	ND		10	10	ug/L			08/16/19 19:25	1
Benzene	ND		0.50	0.25	ug/L			08/16/19 19:25	1
Bromobenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Bromoform	ND		1.0	0.40	ug/L			08/16/19 19:25	1
Bromomethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/16/19 19:25	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Chloroethane	ND		1.0	0.40	ug/L			08/16/19 19:25	1
Chloroform	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Chloromethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/16/19 19:25	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Dibromomethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/16/19 19:25	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/16/19 19:25	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/16/19 19:25	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/16/19 19:25	1
Naphthalene	ND		1.0	0.40	ug/L			08/16/19 19:25	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-563745/5

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
	Result	Qualifier								
n-Butylbenzene	ND		1.0	0.40	ug/L			08/16/19 19:25	1	
N-Propylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
o-Xylene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
Styrene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
Tetrachloroethene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
Toluene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/16/19 19:25	1	
Trichloroethene	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/16/19 19:25	1	
Vinyl chloride	ND		0.50	0.25	ug/L			08/16/19 19:25	1	
<hr/>										
Tentatively Identified Compound		MB	MB	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
<i>Tentatively Identified Compound</i>		Est. Result	Qualifier							
		None		ug/L					08/16/19 19:25	1
<hr/>										
Surrogate		MB	MB	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)		114		70 - 130						
4-Bromofluorobenzene (Surr)		96		80 - 120						
Dibromofluoromethane (Surr)		112		76 - 132						
Toluene-d8 (Surr)		99		80 - 128						

Lab Sample ID: LCS 440-563745/7

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCN	LCN	Unit	D	%Rec	%Rec.	Limits
		Result	Qualifier					
1,1,1-Trichloroethane	10.0	10.9		ug/L		109	70 - 130	
1,1,2,2-Tetrachloroethane	10.0	9.34		ug/L		93	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	12.0		ug/L		120	60 - 140	
1,1,2-Trichloroethane	10.0	9.44		ug/L		94	70 - 130	
1,1-Dichloroethane	10.0	11.2		ug/L		112	64 - 130	
1,1-Dichloroethene	10.0	10.1		ug/L		101	70 - 130	
1,1-Dichloropropene	10.0	10.6		ug/L		106	70 - 130	
1,2,3-Trichlorobenzene	10.0	9.25		ug/L		93	60 - 140	
1,2,3-Trichloropropane	10.0	10.2		ug/L		102	63 - 130	
1,2,4-Trichlorobenzene	10.0	9.02		ug/L		90	60 - 140	
1,2,4-Trimethylbenzene	10.0	10.9		ug/L		109	70 - 135	
1,2-Dibromo-3-Chloropropane	10.0	9.50		ug/L		95	52 - 140	
1,2-Dibromoethane (EDB)	10.0	10.3		ug/L		103	70 - 130	
1,2-Dichlorobenzene	10.0	10.0		ug/L		100	70 - 130	
1,2-Dichloroethane	10.0	11.7		ug/L		117	57 - 138	
1,2-Dichloropropane	10.0	10.6		ug/L		106	67 - 130	
1,3,5-Trimethylbenzene	10.0	10.6		ug/L		106	70 - 136	
1,3-Dichlorobenzene	10.0	10.6		ug/L		106	70 - 130	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-563745/7

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	10.0	9.53		ug/L	95	70 - 130	
1,4-Dichlorobenzene	10.0	10.1		ug/L	101	70 - 130	
2,2-Dichloropropane	10.0	11.6		ug/L	116	68 - 141	
2-Chlorotoluene	10.0	10.4		ug/L	104	70 - 130	
4-Chlorotoluene	10.0	9.63		ug/L	96	70 - 130	
Acetone	50.0	52.2		ug/L	104	10 - 150	
Benzene	10.0	9.95		ug/L	100	68 - 130	
Bromobenzene	10.0	10.3		ug/L	103	70 - 130	
Bromoform	10.0	10.9		ug/L	109	70 - 130	
Bromochloromethane	10.0	10.5		ug/L	105	70 - 132	
Bromodichloromethane	10.0	9.79		ug/L	98	60 - 148	
Bromomethane	10.0	12.8		ug/L	128	64 - 139	
Carbon tetrachloride	10.0	12.1		ug/L	121	60 - 150	
Chlorobenzene	10.0	10.4		ug/L	104	70 - 130	
Chloroethane	10.0	12.5		ug/L	125	64 - 135	
Chloroform	10.0	11.1		ug/L	111	70 - 130	
Chloromethane	10.0	10.6		ug/L	106	47 - 140	
cis-1,2-Dichloroethene	10.0	10.6		ug/L	106	70 - 133	
cis-1,3-Dichloropropene	10.0	10.1		ug/L	101	70 - 133	
Dibromochloromethane	10.0	11.5		ug/L	115	69 - 145	
Dibromomethane	10.0	11.5		ug/L	115	70 - 130	
Dichlorodifluoromethane	10.0	9.94		ug/L	99	29 - 150	
Ethylbenzene	10.0	9.81		ug/L	98	70 - 130	
Hexachlorobutadiene	10.0	9.00		ug/L	90	10 - 150	
Isopropylbenzene	10.0	10.7		ug/L	107	70 - 136	
m,p-Xylene	10.0	10.1		ug/L	101	70 - 130	
Methylene Chloride	10.0	10.4		ug/L	104	52 - 130	
Methyl-t-Butyl Ether (MTBE)	10.0	9.72		ug/L	97	63 - 131	
Naphthalene	10.0	9.18		ug/L	92	60 - 140	
n-Butylbenzene	10.0	10.0		ug/L	100	65 - 150	
N-Propylbenzene	10.0	10.1		ug/L	101	67 - 139	
o-Xylene	10.0	10.5		ug/L	105	70 - 130	
p-Isopropyltoluene	10.0	10.8		ug/L	108	70 - 132	
sec-Butylbenzene	10.0	10.7		ug/L	107	70 - 138	
Styrene	10.0	11.7		ug/L	117	70 - 134	
tert-Butylbenzene	10.0	11.1		ug/L	111	70 - 130	
Tetrachloroethene	10.0	9.85		ug/L	98	70 - 130	
Toluene	10.0	9.41		ug/L	94	70 - 130	
trans-1,2-Dichloroethene	10.0	10.5		ug/L	105	70 - 130	
trans-1,3-Dichloropropene	10.0	10.8		ug/L	108	70 - 132	
Trichloroethene	10.0	11.2		ug/L	112	70 - 130	
Trichlorofluoromethane	10.0	11.4		ug/L	114	60 - 150	
Vinyl chloride	10.0	12.2		ug/L	122	59 - 133	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		70 - 130
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	112		76 - 132

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-563745/7

Matrix: Water

Analysis Batch: 563745

Surrogate	LCS	LCS	
	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)	92		80 - 128

Lab Sample ID: 440-247942-C-5 MS

Matrix: Water

Analysis Batch: 563745

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,1,1-Trichloroethane	ND		100	109		ug/L		109	70 - 130
1,1,2,2-Tetrachloroethane	ND		100	89.6		ug/L		90	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		100	115		ug/L		115	60 - 140
1,1,2-Trichloroethane	ND		100	96.6		ug/L		97	70 - 130
1,1-Dichloroethane	14		100	124		ug/L		110	65 - 130
1,1-Dichloroethene	210		100	289		ug/L		79	70 - 130
1,1-Dichloropropene	ND		100	106		ug/L		106	64 - 130
1,2,3-Trichlorobenzene	ND		100	94.4		ug/L		94	60 - 140
1,2,3-Trichloropropane	ND		100	98.2		ug/L		98	60 - 130
1,2,4-Trichlorobenzene	ND		100	92.4		ug/L		92	60 - 140
1,2,4-Trimethylbenzene	ND		100	102		ug/L		102	70 - 130
1,2-Dibromo-3-Chloropropane	ND		100	95.9		ug/L		96	48 - 140
1,2-Dibromoethane (EDB)	ND		100	103		ug/L		103	70 - 131
1,2-Dichlorobenzene	ND		100	97.3		ug/L		97	70 - 130
1,2-Dichloroethane	ND		100	111		ug/L		111	56 - 146
1,2-Dichloropropane	ND		100	102		ug/L		102	69 - 130
1,3,5-Trimethylbenzene	ND		100	100		ug/L		100	70 - 130
1,3-Dichlorobenzene	ND		100	101		ug/L		101	70 - 130
1,3-Dichloropropane	ND		100	92.5		ug/L		92	70 - 130
1,4-Dichlorobenzene	ND		100	96.9		ug/L		97	70 - 130
2,2-Dichloropropane	ND		100	108		ug/L		108	69 - 138
2-Chlorotoluene	ND		100	95.8		ug/L		96	70 - 130
4-Chlorotoluene	ND		100	94.3		ug/L		94	70 - 130
Acetone	ND		500	434		ug/L		87	10 - 150
Benzene	ND		100	95.0		ug/L		95	66 - 130
Bromobenzene	ND		100	97.3		ug/L		97	70 - 130
Bromochloromethane	ND		100	109		ug/L		109	70 - 130
Bromodichloromethane	ND		100	102		ug/L		102	70 - 138
Bromoform	ND		100	96.2		ug/L		96	59 - 150
Bromomethane	ND		100	118		ug/L		118	62 - 131
Carbon tetrachloride	ND		100	119		ug/L		119	60 - 150
Chlorobenzene	ND		100	104		ug/L		104	70 - 130
Chloroethane	ND		100	125		ug/L		125	68 - 130
Chloroform	ND		100	102		ug/L		102	70 - 130
Chloromethane	ND		100	106		ug/L		106	39 - 144
cis-1,2-Dichloroethene	ND		100	99.9		ug/L		100	70 - 130
cis-1,3-Dichloropropene	ND		100	103		ug/L		103	70 - 133
Dibromochloromethane	ND		100	107		ug/L		107	70 - 148
Dibromomethane	ND		100	107		ug/L		107	70 - 130
Dichlorodifluoromethane	ND		100	86.0		ug/L		86	25 - 142
Ethylbenzene	ND		100	97.3		ug/L		97	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247942-C-5 MS

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	ND		100	91.4		ug/L		91	10 - 150
Isopropylbenzene	ND		100	104		ug/L		104	70 - 132
m,p-Xylene	ND		100	103		ug/L		103	70 - 133
Methylene Chloride	ND		100	93.1		ug/L		93	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		100	91.2		ug/L		91	70 - 130
Naphthalene	ND		100	91.2		ug/L		91	60 - 140
n-Butylbenzene	ND		100	96.5		ug/L		96	61 - 149
N-Propylbenzene	ND		100	92.6		ug/L		93	66 - 135
o-Xylene	ND		100	105		ug/L		105	70 - 133
p-Isopropyltoluene	ND		100	102		ug/L		102	70 - 130
sec-Butylbenzene	ND		100	102		ug/L		102	67 - 134
Styrene	ND		100	116		ug/L		116	29 - 150
tert-Butylbenzene	ND		100	101		ug/L		101	70 - 130
Tetrachloroethene	ND		100	96.6		ug/L		97	70 - 137
Toluene	ND		100	91.6		ug/L		92	70 - 130
trans-1,2-Dichloroethene	ND		100	96.0		ug/L		96	70 - 130
trans-1,3-Dichloropropene	ND		100	102		ug/L		102	70 - 138
Trichloroethene	ND		100	118		ug/L		118	70 - 130
Trichlorofluoromethane	ND		100	115		ug/L		115	60 - 150
Vinyl chloride	ND	F1	100	147	F1	ug/L		147	50 - 137
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Surrogate	MS %Recovery	MS Qualifier	MS Limits						
1,2-Dichloroethane-d4 (Surr)	112		70 - 130						
4-Bromofluorobenzene (Surr)	94		80 - 120						
Dibromofluoromethane (Surr)	113		76 - 132						
Toluene-d8 (Surr)	98		80 - 128						

Lab Sample ID: 440-247942-C-5 MSD

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND		100	109		ug/L		109	70 - 130	0	20
1,1,2,2-Tetrachloroethane	ND		100	96.8		ug/L		97	63 - 130	8	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		100	109		ug/L		109	60 - 140	6	20
1,1,2-Trichloroethane	ND		100	100		ug/L		100	70 - 130	4	25
1,1-Dichloroethane	14		100	121		ug/L		106	65 - 130	3	20
1,1-Dichloroethene	210		100	290		ug/L		80	70 - 130	0	20
1,1-Dichloropropene	ND		100	106		ug/L		106	64 - 130	0	20
1,2,3-Trichlorobenzene	ND		100	101		ug/L		101	60 - 140	7	20
1,2,3-Trichloropropane	ND		100	115		ug/L		115	60 - 130	16	30
1,2,4-Trichlorobenzene	ND		100	99.9		ug/L		100	60 - 140	8	20
1,2,4-Trimethylbenzene	ND		100	103		ug/L		103	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		100	106		ug/L		106	48 - 140	10	30
1,2-Dibromoethane (EDB)	ND		100	111		ug/L		111	70 - 131	8	25
1,2-Dichlorobenzene	ND		100	96.8		ug/L		97	70 - 130	1	20
1,2-Dichloroethane	ND		100	117		ug/L		117	56 - 146	5	20
1,2-Dichloropropane	ND		100	97.0		ug/L		97	69 - 130	5	20

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247942-C-5 MSD

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	Limits	RPD	RPD Limit
1,3,5-Trimethylbenzene	ND		100	97.9		ug/L		98	70 - 130	2	20
1,3-Dichlorobenzene	ND		100	103		ug/L		103	70 - 130	2	20
1,3-Dichloropropane	ND		100	101		ug/L		101	70 - 130	9	25
1,4-Dichlorobenzene	ND		100	97.3		ug/L		97	70 - 130	0	20
2,2-Dichloropropane	ND		100	114		ug/L		114	69 - 138	5	25
2-Chlorotoluene	ND		100	93.8		ug/L		94	70 - 130	2	20
4-Chlorotoluene	ND		100	95.4		ug/L		95	70 - 130	1	20
Acetone	ND		500	543		ug/L		109	10 - 150	22	35
Benzene	ND		100	98.7		ug/L		99	66 - 130	4	20
Bromobenzene	ND		100	96.9		ug/L		97	70 - 130	0	20
Bromoform	ND		100	114		ug/L		114	70 - 130	5	25
Bromochloromethane	ND		100	100		ug/L		100	70 - 138	2	20
Bromodichloromethane	ND		100	108		ug/L		108	59 - 150	11	25
Bromoform	ND		100	120		ug/L		120	62 - 131	2	25
Bromomethane	ND		100	119		ug/L		119	60 - 150	0	25
Carbon tetrachloride	ND		100	105		ug/L		105	70 - 130	2	20
Chlorobenzene	ND		100	121		ug/L		121	68 - 130	3	25
Chloroethane	ND		100	105		ug/L		105	70 - 130	3	20
Chloroform	ND		100	100		ug/L		100	39 - 144	5	25
Chloromethane	ND		100	109		ug/L		109	70 - 130	8	20
cis-1,2-Dichloroethene	ND		100	105		ug/L		105	70 - 133	2	20
cis-1,3-Dichloropropene	ND		100	123		ug/L		123	70 - 148	14	25
Dibromochloromethane	ND		100	109		ug/L		109	70 - 130	2	25
Dibromomethane	ND		100	85.5		ug/L		85	25 - 142	1	30
Dichlorodifluoromethane	ND		100	98.0		ug/L		98	70 - 130	1	20
Ethylbenzene	ND		100	90.9		ug/L		91	10 - 150	1	20
Hexachlorobutadiene	ND		100	106		ug/L		106	70 - 132	2	20
Isopropylbenzene	ND		100	103		ug/L		103	70 - 133	0	25
m,p-Xylene	ND		100	99.9		ug/L		100	52 - 130	7	20
Methylene Chloride	ND		100	109		ug/L		109	70 - 133	5	20
Methyl-t-Butyl Ether (MTBE)	ND		100	99.9		ug/L		100	70 - 130	9	25
Naphthalene	ND		100	103		ug/L		103	60 - 140	12	30
n-Butylbenzene	ND		100	95.4		ug/L		95	61 - 149	1	20
N-Propylbenzene	ND		100	92.2		ug/L		92	66 - 135	0	20
o-Xylene	ND		100	109		ug/L		109	70 - 133	5	20
p-Isopropyltoluene	ND		100	103		ug/L		103	70 - 130	1	20
sec-Butylbenzene	ND		100	101		ug/L		101	67 - 134	1	20
Styrene	ND		100	123		ug/L		123	29 - 150	6	35
tert-Butylbenzene	ND		100	101		ug/L		101	70 - 130	0	20
Tetrachloroethene	ND		100	96.3		ug/L		96	70 - 137	0	20
Toluene	ND		100	91.9		ug/L		92	70 - 130	0	20
trans-1,2-Dichloroethene	ND		100	98.0		ug/L		98	70 - 130	2	20
trans-1,3-Dichloropropene	ND		100	110		ug/L		110	70 - 138	8	25
Trichloroethene	ND		100	113		ug/L		113	70 - 130	5	20
Trichlorofluoromethane	ND		100	111		ug/L		111	60 - 150	3	25
Vinyl chloride	ND	F1	100	141	F1	ug/L		141	50 - 137	4	30

MSD **MSD**

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	116		70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-247942-C-5 MSD

Matrix: Water

Analysis Batch: 563745

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	92		80 - 120
Dibromofluoromethane (Surr)	113		76 - 132
Toluene-d8 (Surr)	97		80 - 128

Lab Sample ID: MB 440-563832/4

Matrix: Water

Analysis Batch: 563832

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/17/19 11:13	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/17/19 11:13	1
Tentatively Identified Compound									
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/17/19 11:13	1
Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac	%Rec.	Limits	
1,2-Dichloroethane-d4 (Surr)	105		70 - 130					08/17/19 11:13	1
4-Bromofluorobenzene (Surr)	103		80 - 120					08/17/19 11:13	1
Dibromofluoromethane (Surr)	105		76 - 132					08/17/19 11:13	1
Toluene-d8 (Surr)	100		80 - 128					08/17/19 11:13	1

Lab Sample ID: LCS 440-563832/5

Matrix: Water

Analysis Batch: 563832

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	D	%Rec	Limits
		Result	Qualifier			
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.23		ug/L	92	60 - 140
Tetrachloroethene	10.0	8.83		ug/L	88	70 - 130
Surrogate						
Surrogate	%Recovery	Qualifier	Limits			
1,2-Dichloroethane-d4 (Surr)	110		70 - 130			
4-Bromofluorobenzene (Surr)	104		80 - 120			
Dibromofluoromethane (Surr)	103		76 - 132			
Toluene-d8 (Surr)	90		80 - 128			

Lab Sample ID: LCSD 440-563832/6

Matrix: Water

Analysis Batch: 563832

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD	LCSD	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Unit					
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.49		ug/L	95	60 - 140	3	20
Tetrachloroethene	10.0	8.62		ug/L	86	70 - 130	2	20
Surrogate								
Surrogate	%Recovery	Qualifier	Limits					
1,2-Dichloroethane-d4 (Surr)	112		70 - 130					

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-563832/6

Matrix: Water

Analysis Batch: 563832

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Surrogate	LCSD	LCSD	
	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	104		76 - 132
Toluene-d8 (Surr)	89		80 - 128

Lab Sample ID: 550-127983-B-1 MS

Matrix: Water

Analysis Batch: 563832

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	9.75		ug/L		97	60 - 140	
Tetrachloroethene	ND		10.0	8.80		ug/L		88	70 - 137	
Surrogate	%Recovery	Qualifier		Limits						
1,2-Dichloroethane-d4 (Surr)	120			70 - 130						
4-Bromofluorobenzene (Surr)	100			80 - 120						
Dibromofluoromethane (Surr)	104			76 - 132						
Toluene-d8 (Surr)	90			80 - 128						

Lab Sample ID: 550-127983-B-1 MSD

Matrix: Water

Analysis Batch: 563832

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	10.4		ug/L		104	60 - 140	6	20
Tetrachloroethene	ND		10.0	9.24		ug/L		92	70 - 137	5	20
Surrogate	%Recovery	Qualifier		Limits							
1,2-Dichloroethane-d4 (Surr)	117			70 - 130							
4-Bromofluorobenzene (Surr)	101			80 - 120							
Dibromofluoromethane (Surr)	105			76 - 132							
Toluene-d8 (Surr)	89			80 - 128							

Lab Sample ID: MB 440-563962/4

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/19/19 09:51	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/19/19 09:51	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-563962/4

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/19/19 09:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/19/19 09:51	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/19/19 09:51	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/19/19 09:51	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Acetone			10	10	ug/L			08/19/19 09:51	1
Benzene	ND		0.50	0.25	ug/L			08/19/19 09:51	1
Bromobenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Bromoform	ND		1.0	0.40	ug/L			08/19/19 09:51	1
Bromomethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/19/19 09:51	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Chloroethane	ND		1.0	0.40	ug/L			08/19/19 09:51	1
Chloroform	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Chloromethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/19/19 09:51	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Dibromomethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/19/19 09:51	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/19/19 09:51	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/19/19 09:51	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Naphthalene	ND		1.0	0.40	ug/L			08/19/19 09:51	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/19/19 09:51	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
o-Xylene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Styrene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Toluene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 09:51	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-563962/4

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
trans-1,3-Dichloropropene	ND				0.50	0.25	ug/L			08/19/19 09:51	1
Trichlorofluoromethane	ND				1.0	0.25	ug/L			08/19/19 09:51	1
Vinyl chloride	ND				0.50	0.25	ug/L			08/19/19 09:51	1
<i>Tentatively Identified Compound</i>	MB	MB	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
	Tentatively Identified Compound	None			ug/L					08/19/19 09:51	
<i>Surrogate</i>	MB	MB	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
	1,2-Dichloroethane-d4 (Surr)	94			70 - 130					08/19/19 09:51	
4-Bromofluorobenzene (Surr)	106				80 - 120					08/19/19 09:51	1
Dibromofluoromethane (Surr)	121				76 - 132					08/19/19 09:51	1
Toluene-d8 (Surr)	89				80 - 128					08/19/19 09:51	1

Lab Sample ID: LCS 440-563962/5

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCN	LCN	Unit	D	%Rec	%Rec.
		Result	Qualifier				
1,1,1,2-Tetrachloroethane	10.0	10.2		ug/L		102	60 - 141
1,1,1-Trichloroethane	10.0	9.30		ug/L		93	70 - 130
1,1,2,2-Tetrachloroethane	10.0	11.2		ug/L		112	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.96		ug/L		100	60 - 140
1,1,2-Trichloroethane	10.0	11.5		ug/L		115	70 - 130
1,1-Dichloroethane	10.0	10.5		ug/L		105	64 - 130
1,1-Dichloroethene	10.0	11.6		ug/L		116	70 - 130
1,1-Dichloropropene	10.0	9.23		ug/L		92	70 - 130
1,2,3-Trichlorobenzene	10.0	13.6		ug/L		136	60 - 140
1,2,3-Trichloropropane	10.0	10.8		ug/L		108	63 - 130
1,2,4-Trichlorobenzene	10.0	13.3		ug/L		133	60 - 140
1,2,4-Trimethylbenzene	10.0	9.29		ug/L		93	70 - 135
1,2-Dibromo-3-Chloropropane	10.0	10.6		ug/L		106	52 - 140
1,2-Dibromoethane (EDB)	10.0	9.54		ug/L		95	70 - 130
1,2-Dichlorobenzene	10.0	11.1		ug/L		111	70 - 130
1,2-Dichloroethane	10.0	8.14		ug/L		81	57 - 138
1,2-Dichloropropane	10.0	12.3		ug/L		123	67 - 130
1,3,5-Trimethylbenzene	10.0	8.97		ug/L		90	70 - 136
1,3-Dichlorobenzene	10.0	9.66		ug/L		97	70 - 130
1,3-Dichloropropane	10.0	10.9		ug/L		109	70 - 130
1,4-Dichlorobenzene	10.0	9.20		ug/L		92	70 - 130
2,2-Dichloropropane	10.0	10.2		ug/L		102	68 - 141
2-Chlorotoluene	10.0	8.94		ug/L		89	70 - 130
4-Chlorotoluene	10.0	8.86		ug/L		89	70 - 130
Acetone	50.0	47.0		ug/L		94	10 - 150
Benzene	10.0	9.68		ug/L		97	68 - 130
Bromobenzene	10.0	12.4		ug/L		124	70 - 130
Bromochloromethane	10.0	12.8		ug/L		128	70 - 130
Bromodichloromethane	10.0	12.6		ug/L		126	70 - 132

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-563962/5

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromoform	10.0	12.0		ug/L		120	60 - 148
Bromomethane	10.0	11.6		ug/L		116	64 - 139
Carbon tetrachloride	10.0	9.14		ug/L		91	60 - 150
Chlorobenzene	10.0	10.3		ug/L		103	70 - 130
Chloroethane	10.0	9.14		ug/L		91	64 - 135
Chloroform	10.0	11.4		ug/L		114	70 - 130
Chloromethane	10.0	8.04		ug/L		80	47 - 140
cis-1,2-Dichloroethene	10.0	13.1		ug/L		131	70 - 133
cis-1,3-Dichloropropene	10.0	11.5		ug/L		115	70 - 133
Dibromochloromethane	10.0	10.1		ug/L		101	69 - 145
Dibromomethane	10.0	11.6		ug/L		116	70 - 130
Dichlorodifluoromethane	10.0	7.81		ug/L		78	29 - 150
Ethylbenzene	10.0	11.1		ug/L		111	70 - 130
Hexachlorobutadiene	10.0	13.9		ug/L		139	10 - 150
Isopropylbenzene	10.0	9.34		ug/L		93	70 - 136
m,p-Xylene	10.0	10.6		ug/L		106	70 - 130
Methylene Chloride	10.0	11.2		ug/L		112	52 - 130
Methyl-t-Butyl Ether (MTBE)	10.0	12.0		ug/L		120	63 - 131
Naphthalene	10.0	13.2		ug/L		132	60 - 140
n-Butylbenzene	10.0	11.9		ug/L		119	65 - 150
N-Propylbenzene	10.0	8.97		ug/L		90	67 - 139
o-Xylene	10.0	10.7		ug/L		107	70 - 130
p-Isopropyltoluene	10.0	9.01		ug/L		90	70 - 132
sec-Butylbenzene	10.0	9.11		ug/L		91	70 - 138
Styrene	10.0	11.2		ug/L		112	70 - 134
tert-Butylbenzene	10.0	8.88		ug/L		89	70 - 130
Tetrachloroethene	10.0	8.75		ug/L		88	70 - 130
Toluene	10.0	10.2		ug/L		102	70 - 130
trans-1,2-Dichloroethene	10.0	11.4		ug/L		114	70 - 130
trans-1,3-Dichloropropene	10.0	11.1		ug/L		111	70 - 132
Trichlorofluoromethane	10.0	9.16		ug/L		92	60 - 150
Vinyl chloride	10.0	8.42		ug/L		84	59 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		70 - 130
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	115		76 - 132
Toluene-d8 (Surr)	104		80 - 128

Lab Sample ID: 440-248100-6 MS

Matrix: Water

Analysis Batch: 563962

Client Sample ID: OC_GW_DPE-7D_20190815

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		10.0	9.91		ug/L		99	60 - 149
1,1,1-Trichloroethane	ND		10.0	11.4		ug/L		114	70 - 130
1,1,2,2-Tetrachloroethane	ND	F1	10.0	13.8	F1	ug/L		138	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroetha ne	16	F1	10.0	33.3	F1	ug/L		177	60 - 140

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248100-6 MS

Matrix: Water

Analysis Batch: 563962

Client Sample ID: OC_GW_DPE-7D_20190815

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,1,2-Trichloroethane	ND	F2	10.0	8.61		ug/L	86	70 - 130	
1,1-Dichloroethane	ND		10.0	11.6		ug/L	116	65 - 130	
1,1-Dichloroethene	15	F1 F2	10.0	31.8	F1	ug/L	173	70 - 130	
1,1-Dichloropropene	ND		10.0	11.9		ug/L	119	64 - 130	
1,2,3-Trichlorobenzene	ND		10.0	11.7		ug/L	117	60 - 140	
1,2,3-Trichloropropane	ND		10.0	12.2		ug/L	122	60 - 130	
1,2,4-Trichlorobenzene	ND		10.0	11.6		ug/L	116	60 - 140	
1,2,4-Trimethylbenzene	ND		10.0	10.2		ug/L	102	70 - 130	
1,2-Dibromo-3-Chloropropane	ND		10.0	10.5		ug/L	105	48 - 140	
1,2-Dibromoethane (EDB)	ND		10.0	9.08		ug/L	91	70 - 131	
1,2-Dichlorobenzene	ND		10.0	12.1		ug/L	121	70 - 130	
1,2-Dichloroethane	ND		10.0	9.19		ug/L	92	56 - 146	
1,2-Dichloropropane	ND		10.0	10.3		ug/L	103	69 - 130	
1,3,5-Trimethylbenzene	ND		10.0	10.1		ug/L	101	70 - 130	
1,3-Dichlorobenzene	ND		10.0	10.5		ug/L	105	70 - 130	
1,3-Dichloropropane	ND		10.0	8.57		ug/L	86	70 - 130	
1,4-Dichlorobenzene	ND		10.0	10.3		ug/L	103	70 - 130	
2,2-Dichloropropane	ND		10.0	11.5		ug/L	115	69 - 138	
2-Chlorotoluene	ND		10.0	9.79		ug/L	98	70 - 130	
4-Chlorotoluene	ND		10.0	9.83		ug/L	98	70 - 130	
Acetone	ND		50.0	48.4		ug/L	97	10 - 150	
Benzene	ND		10.0	10.6		ug/L	106	66 - 130	
Bromobenzene	ND		10.0	11.0		ug/L	110	70 - 130	
Bromochloromethane	ND		10.0	12.7		ug/L	127	70 - 130	
Bromodichloromethane	ND		10.0	10.7		ug/L	107	70 - 138	
Bromoform	ND		10.0	9.95		ug/L	100	59 - 150	
Bromomethane	ND	F1	10.0	17.2	F1	ug/L	172	62 - 131	
Carbon tetrachloride	ND		10.0	10.9		ug/L	109	60 - 150	
Chlorobenzene	ND		10.0	9.77		ug/L	98	70 - 130	
Chloroethane	ND	F1	10.0	13.8	F1	ug/L	138	68 - 130	
Chloroform	ND		10.0	12.4		ug/L	124	70 - 130	
Chloromethane	ND		10.0	12.4		ug/L	124	39 - 144	
cis-1,2-Dichloroethene	ND		10.0	12.5		ug/L	125	70 - 130	
cis-1,3-Dichloropropene	ND		10.0	9.92		ug/L	99	70 - 133	
Dibromochloromethane	ND		10.0	8.57		ug/L	86	70 - 148	
Dibromomethane	ND		10.0	10.5		ug/L	105	70 - 130	
Dichlorodifluoromethane	ND		10.0	11.7		ug/L	117	25 - 142	
Ethylbenzene	ND		10.0	10.4		ug/L	104	70 - 130	
Hexachlorobutadiene	ND		10.0	12.7		ug/L	127	10 - 150	
Isopropylbenzene	ND		10.0	8.55		ug/L	85	70 - 132	
m,p-Xylene	ND		10.0	9.65		ug/L	96	70 - 133	
Methylene Chloride	ND	F2	10.0	12.9		ug/L	129	52 - 130	
Methyl-t-Butyl Ether (MTBE)	ND		10.0	11.7		ug/L	117	70 - 130	
Naphthalene	ND		10.0	10.4		ug/L	104	60 - 140	
n-Butylbenzene	ND	F2	10.0	13.7		ug/L	137	61 - 149	
N-Propylbenzene	ND		10.0	10.1		ug/L	101	66 - 135	
o-Xylene	ND		10.0	10.5		ug/L	105	70 - 133	
p-Isopropyltoluene	ND		10.0	10.1		ug/L	101	70 - 130	
sec-Butylbenzene	ND		10.0	10.5		ug/L	105	67 - 134	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248100-6 MS

Matrix: Water

Analysis Batch: 563962

Client Sample ID: OC_GW_DPE-7D_20190815

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Styrene	ND		10.0	9.94		ug/L	99	29 - 150	
tert-Butylbenzene	ND		10.0	10.2		ug/L	102	70 - 130	
Tetrachloroethene	56		10.0	53.6	4	ug/L	-28	70 - 137	
Toluene	ND		10.0	8.54		ug/L	85	70 - 130	
trans-1,2-Dichloroethene	ND		10.0	12.7		ug/L	127	70 - 130	
trans-1,3-Dichloropropene	ND		10.0	10.3		ug/L	103	70 - 138	
Trichlorofluoromethane	5.4	F2	10.0	19.0		ug/L	137	60 - 150	
Vinyl chloride	ND		10.0	13.5		ug/L	135	50 - 137	
<hr/>									
Surrogate	MS %Recovery		MS Qualifier		Limits				
1,2-Dichloroethane-d4 (Surr)	101		70 - 130						
4-Bromofluorobenzene (Surr)	94		80 - 120						
Dibromofluoromethane (Surr)	118		76 - 132						
Toluene-d8 (Surr)	78	X	80 - 128						

Lab Sample ID: 440-248100-6 MSD

Matrix: Water

Analysis Batch: 563962

Client Sample ID: OC_GW_DPE-7D_20190815

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		10.0	9.84		ug/L	98	60 - 149		1	20
1,1,1-Trichloroethane	ND		10.0	9.86		ug/L	99	70 - 130		15	20
1,1,2,2-Tetrachloroethane	ND	F1	10.0	10.4		ug/L	104	63 - 130		28	30
1,1,2-Trichloro-1,2,2-trifluoroethane	16	F1	10.0	28.3		ug/L	127	60 - 140		16	20
1,1,2-Trichloroethane	ND	F2	10.0	11.3	F2	ug/L	113	70 - 130		27	25
1,1-Dichloroethane	ND		10.0	9.82		ug/L	98	65 - 130		17	20
1,1-Dichloroethene	15	F1 F2	10.0	23.8	F2	ug/L	92	70 - 130		29	20
1,1-Dichloropropene	ND		10.0	10.8		ug/L	108	64 - 130		10	20
1,2,3-Trichlorobenzene	ND		10.0	11.7		ug/L	117	60 - 140		0	20
1,2,3-Trichloropropane	ND		10.0	9.91		ug/L	99	60 - 130		21	30
1,2,4-Trichlorobenzene	ND		10.0	13.8		ug/L	138	60 - 140		17	20
1,2,4-Trimethylbenzene	ND		10.0	9.21		ug/L	92	70 - 130		11	25
1,2-Dibromo-3-Chloropropane	ND		10.0	10.6		ug/L	106	48 - 140		1	30
1,2-Dibromoethane (EDB)	ND		10.0	9.31		ug/L	93	70 - 131		2	25
1,2-Dichlorobenzene	ND		10.0	9.94		ug/L	99	70 - 130		20	20
1,2-Dichloroethane	ND		10.0	8.69		ug/L	87	56 - 146		6	20
1,2-Dichloropropane	ND		10.0	9.60		ug/L	96	69 - 130		7	20
1,3,5-Trimethylbenzene	ND		10.0	9.30		ug/L	93	70 - 130		8	20
1,3-Dichlorobenzene	ND		10.0	9.86		ug/L	99	70 - 130		7	20
1,3-Dichloropropane	ND		10.0	9.16		ug/L	92	70 - 130		7	25
1,4-Dichlorobenzene	ND		10.0	9.48		ug/L	95	70 - 130		8	20
2,2-Dichloropropane	ND		10.0	10.4		ug/L	104	69 - 138		10	25
2-Chlorotoluene	ND		10.0	10.6		ug/L	106	70 - 130		8	20
4-Chlorotoluene	ND		10.0	9.82		ug/L	98	70 - 130		0	20
Acetone	ND		50.0	42.5		ug/L	85	10 - 150		13	35
Benzene	ND		10.0	9.74		ug/L	97	66 - 130		8	20
Bromobenzene	ND		10.0	12.0		ug/L	120	70 - 130		9	20
Bromochloromethane	ND		10.0	11.9		ug/L	119	70 - 130		7	25

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248100-6 MSD

Matrix: Water

Analysis Batch: 563962

Client Sample ID: OC_GW_DPE-7D_20190815

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD	RPD Limit	
Bromodichloromethane	ND		10.0	10.9		ug/L		109	70 - 138	1	20
Bromoform	ND		10.0	9.97		ug/L		100	59 - 150	0	25
Bromomethane	ND	F1	10.0	17.1	F1	ug/L		171	62 - 131	1	25
Carbon tetrachloride	ND		10.0	9.28		ug/L		93	60 - 150	16	25
Chlorobenzene	ND		10.0	9.51		ug/L		95	70 - 130	3	20
Chloroethane	ND	F1	10.0	12.5		ug/L		125	68 - 130	10	25
Chloroform	ND		10.0	10.8		ug/L		108	70 - 130	14	20
Chloromethane	ND		10.0	10.7		ug/L		107	39 - 144	15	25
cis-1,2-Dichloroethene	ND		10.0	10.2		ug/L		102	70 - 130	20	20
cis-1,3-Dichloropropene	ND		10.0	11.6		ug/L		116	70 - 133	15	20
Dibromochloromethane	ND		10.0	9.34		ug/L		93	70 - 148	9	25
Dibromomethane	ND		10.0	9.33		ug/L		93	70 - 130	12	25
Dichlorodifluoromethane	ND		10.0	10.5		ug/L		105	25 - 142	11	30
Ethylbenzene	ND		10.0	8.95		ug/L		89	70 - 130	15	20
Hexachlorobutadiene	ND		10.0	12.2		ug/L		122	10 - 150	3	20
Isopropylbenzene	ND		10.0	10.0		ug/L		100	70 - 132	16	20
m,p-Xylene	ND		10.0	8.84		ug/L		88	70 - 133	9	25
Methylene Chloride	ND	F2	10.0	10.3	F2	ug/L		103	52 - 130	22	20
Methyl-t-Butyl Ether (MTBE)	ND		10.0	10.7		ug/L		107	70 - 130	8	25
Naphthalene	ND		10.0	12.1		ug/L		121	60 - 140	15	30
n-Butylbenzene	ND	F2	10.0	9.37	F2	ug/L		94	61 - 149	37	20
N-Propylbenzene	ND		10.0	11.6		ug/L		116	66 - 135	14	20
o-Xylene	ND		10.0	9.11		ug/L		91	70 - 133	14	20
p-Isopropyltoluene	ND		10.0	9.07		ug/L		91	70 - 130	11	20
sec-Butylbenzene	ND		10.0	8.89		ug/L		89	67 - 134	17	20
Styrene	ND		10.0	9.02		ug/L		90	29 - 150	10	35
tert-Butylbenzene	ND		10.0	8.69		ug/L		87	70 - 130	16	20
Tetrachloroethene	56		10.0	57.3	4	ug/L		9	70 - 137	7	20
Toluene	ND		10.0	9.01		ug/L		90	70 - 130	5	20
trans-1,2-Dichloroethene	ND		10.0	11.2		ug/L		112	70 - 130	13	20
trans-1,3-Dichloropropene	ND		10.0	10.1		ug/L		101	70 - 138	2	25
Trichloroethene	29	*	10.0	36.1		ug/L		73	70 - 130	4	20
Trichlorofluoromethane	5.4	F2	10.0	12.9	F2	ug/L		75	60 - 150	38	25
Vinyl chloride	ND		10.0	10.9		ug/L		109	50 - 137	21	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	107		76 - 132
Toluene-d8 (Surr)	98		80 - 128

Lab Sample ID: MB 440-564207/4

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/20/19 08:25	1
Trichloroethene	ND		1.0	0.25	ug/L			08/20/19 08:25	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-564207/4

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Method Blank
Prep Type: Total/NA

Tentatively Identified Compound	MB		Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
	Est. Result	Qualifier							
Tentatively Identified Compound	None		ug/L					08/20/19 08:25	1
Surrogate									
1,2-Dichloroethane-d4 (Surr)									
4-Bromofluorobenzene (Surr)	81		70 - 130					08/20/19 08:25	1
Dibromofluoromethane (Surr)	108		80 - 120					08/20/19 08:25	1
Toluene-d8 (Surr)	80		76 - 132					08/20/19 08:25	1
Toluene-d8 (Surr)	104		80 - 128					08/20/19 08:25	1

Lab Sample ID: LCS 440-564207/1003

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	LCS		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
	LCS	Qualifer							
Isopropyl alcohol			250	266		ug/L		106	49 - 142
Surrogate									
1,2-Dichloroethane-d4 (Surr)									
4-Bromofluorobenzene (Surr)	82		70 - 130						
Dibromofluoromethane (Surr)	96		80 - 120						
Toluene-d8 (Surr)	99		76 - 132						
Toluene-d8 (Surr)	105		80 - 128						

Lab Sample ID: LCS 440-564207/5

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	LCS		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
	LCS	Qualifer							
Trichloroethene			10.0	10.4		ug/L		104	70 - 130
Surrogate									
1,2-Dichloroethane-d4 (Surr)									
4-Bromofluorobenzene (Surr)	86		70 - 130						
Dibromofluoromethane (Surr)	82		80 - 120						
Toluene-d8 (Surr)	103		76 - 132						
Toluene-d8 (Surr)	100		80 - 128						

Lab Sample ID: LCSD 440-564207/6

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	LCSD		Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	LCSD	Qualifer									
Trichloroethene			10.0	10.9		ug/L		109	70 - 130	5	20
Surrogate											
1,2-Dichloroethane-d4 (Surr)											
4-Bromofluorobenzene (Surr)	83		70 - 130								
Dibromofluoromethane (Surr)	90		80 - 120								
Toluene-d8 (Surr)	89		76 - 132								
Toluene-d8 (Surr)	94		80 - 128								

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248098-B-1 MS

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol	ND		250	271		ug/L		108	46 - 142
Trichloroethene	26	F1	10.0	31.1	F1	ug/L		53	70 - 130
Surrogate									
1,2-Dichloroethane-d4 (Surr)									
76									
4-Bromofluorobenzene (Surr)									
95									
Dibromofluoromethane (Surr)									
96									
Toluene-d8 (Surr)									
105									
MS %Recovery									
Qualifer									
Limits									

Lab Sample ID: 440-248098-B-1 MSD

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isopropyl alcohol	ND		250	254		ug/L		101	46 - 142	7	40
Trichloroethene	26	F1	10.0	30.4	F1	ug/L		46	70 - 130	2	20
Surrogate											
1,2-Dichloroethane-d4 (Surr)											
71											
4-Bromofluorobenzene (Surr)											
100											
Dibromofluoromethane (Surr)											
92											
Toluene-d8 (Surr)											
100											
MSD %Recovery											
Qualifer											
Limits											

Lab Sample ID: MB 440-565761/4

Matrix: Water

Analysis Batch: 565761

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/27/19 20:44	1
Tentatively Identified Compound									
1,3,5-Trichlorobenzene									
1.05									
Est. Result									
Qualifer									
Unit									
D									
RT									
CAS No.									
Prepared									
Analyzed									
Dil Fac									
Surrogate									
%Recovery									
Qualifier									
Limits									
Prepared									
Analyzed									
Dil Fac									
1,2-Dichloroethane-d4 (Surr)									
93									
4-Bromofluorobenzene (Surr)									
94									
Dibromofluoromethane (Surr)									
97									
Toluene-d8 (Surr)									
100									
MB %Recovery									
Qualifer									
Unit									
D									
RT									
CAS No.									
Prepared									
Analyzed									
Dil Fac									

Lab Sample ID: LCS 440-565761/1003

Matrix: Water

Analysis Batch: 565761

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol	250	264		ug/L		105	49 - 142

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-565761/1003

Matrix: Water

Analysis Batch: 565761

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

LCS LCS

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		70 - 130
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	100		76 - 132
Toluene-d8 (Surr)	100		80 - 128

Lab Sample ID: 440-248097-A-1 MS

Matrix: Water

Analysis Batch: 565761

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol	ND		250	256		ug/L		103	46 - 142

MS MS

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		70 - 130
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132
Toluene-d8 (Surr)	97		80 - 128

Lab Sample ID: 440-248097-A-1 MSD

Matrix: Water

Analysis Batch: 565761

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isopropyl alcohol	ND		250	232	J	ug/L		93	46 - 142	10	40

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 130
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	97		76 - 132
Toluene-d8 (Surr)	99		80 - 128

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-564093/1-A

Matrix: Water

Analysis Batch: 564299

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 564093

MB MB

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	0.10	ug/L		08/19/19 13:18	08/20/19 12:15	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	57		27 - 120	08/19/19 13:18	08/20/19 12:15	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Job ID: 440-248100-1

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

SDG: Omega Chemical

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 440-564093/2-A

Matrix: Water

Analysis Batch: 564299

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 564093

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.62		ug/L	81		36 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,4-Dioxane-d8 (Surr)	60		27 - 120				

Lab Sample ID: LCSD 440-564093/3-A

Matrix: Water

Analysis Batch: 564299

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 564093

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	1.30		ug/L	65		36 - 120	22	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	61		27 - 120						

QC Association Summary

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1
 SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 563745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248100-1	OC_GW_DPE-3_20190815	Total/NA	Water	8260B	
440-248100-3	OC_GW_DPE-5_20190815	Total/NA	Water	8260B	
440-248100-4	OC_GW_DPE-8_20190815	Total/NA	Water	8260B	
440-248100-5	OC_GW_DPE-9_20190815	Total/NA	Water	8260B	
440-248100-7	OC_GW_DPE-10D_20190815	Total/NA	Water	8260B	
440-248100-8	OC_TB2_20190815	Total/NA	Water	8260B	
MB 440-563745/5	Method Blank	Total/NA	Water	8260B	
LCS 440-563745/7	Lab Control Sample	Total/NA	Water	8260B	
440-247942-C-5 MS	Matrix Spike	Total/NA	Water	8260B	
440-247942-C-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 563832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248100-1 - DL	OC_GW_DPE-3_20190815	Total/NA	Water	8260B	
440-248100-7 - DL	OC_GW_DPE-10D_20190815	Total/NA	Water	8260B	
MB 440-563832/4	Method Blank	Total/NA	Water	8260B	
LCS 440-563832/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-563832/6	Lab Control Sample Dup	Total/NA	Water	8260B	
550-127983-B-1 MS	Matrix Spike	Total/NA	Water	8260B	
550-127983-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 563962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248100-2	OC_GW_DPE-4_20190815	Total/NA	Water	8260B	
440-248100-2 - DL	OC_GW_DPE-4_20190815	Total/NA	Water	8260B	
440-248100-6	OC_GW_DPE-7D_20190815	Total/NA	Water	8260B	
440-248100-8 - RA	OC_TB2_20190815	Total/NA	Water	8260B	
MB 440-563962/4	Method Blank	Total/NA	Water	8260B	
LCS 440-563962/5	Lab Control Sample	Total/NA	Water	8260B	
440-248100-6 MS	OC_GW_DPE-7D_20190815	Total/NA	Water	8260B	
440-248100-6 MSD	OC_GW_DPE-7D_20190815	Total/NA	Water	8260B	

Analysis Batch: 564207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248100-2 - RA	OC_GW_DPE-4_20190815	Total/NA	Water	8260B	
440-248100-6 - RA	OC_GW_DPE-7D_20190815	Total/NA	Water	8260B	
MB 440-564207/4	Method Blank	Total/NA	Water	8260B	
LCS 440-564207/1003	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-564207/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-564207/6	Lab Control Sample Dup	Total/NA	Water	8260B	
440-248098-B-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-248098-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 565761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248100-1 - RA	OC_GW_DPE-3_20190815	Total/NA	Water	8260B	
440-248100-3 - RA	OC_GW_DPE-5_20190815	Total/NA	Water	8260B	
440-248100-4 - RA	OC_GW_DPE-8_20190815	Total/NA	Water	8260B	
440-248100-5 - RA	OC_GW_DPE-9_20190815	Total/NA	Water	8260B	
440-248100-7 - RA	OC_GW_DPE-10D_20190815	Total/NA	Water	8260B	
440-248100-8 - RA	OC_TB2_20190815	Total/NA	Water	8260B	

Eurofins TestAmerica, Irvine

QC Association Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

GC/MS VOA (Continued)

Analysis Batch: 565761 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-565761/4	Method Blank	Total/NA	Water	8260B	
LCS 440-565761/1003	Lab Control Sample	Total/NA	Water	8260B	
440-248097-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-248097-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 564093

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248100-1	OC_GW_DPE-3_20190815	Total/NA	Water	3520C	
440-248100-2	OC_GW_DPE-4_20190815	Total/NA	Water	3520C	
440-248100-3	OC_GW_DPE-5_20190815	Total/NA	Water	3520C	
440-248100-4	OC_GW_DPE-8_20190815	Total/NA	Water	3520C	
440-248100-5	OC_GW_DPE-9_20190815	Total/NA	Water	3520C	
440-248100-6	OC_GW_DPE-7D_20190815	Total/NA	Water	3520C	
440-248100-7	OC_GW_DPE-10D_20190815	Total/NA	Water	3520C	
MB 440-564093/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-564093/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-564093/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 564299

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248100-1	OC_GW_DPE-3_20190815	Total/NA	Water	8270C SIM	564093
440-248100-2	OC_GW_DPE-4_20190815	Total/NA	Water	8270C SIM	564093
440-248100-3	OC_GW_DPE-5_20190815	Total/NA	Water	8270C SIM	564093
440-248100-4	OC_GW_DPE-8_20190815	Total/NA	Water	8270C SIM	564093
440-248100-5	OC_GW_DPE-9_20190815	Total/NA	Water	8270C SIM	564093
440-248100-6	OC_GW_DPE-7D_20190815	Total/NA	Water	8270C SIM	564093
440-248100-7	OC_GW_DPE-10D_20190815	Total/NA	Water	8270C SIM	564093
MB 440-564093/1-A	Method Blank	Total/NA	Water	8270C SIM	564093
LCS 440-564093/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	564093
LCSD 440-564093/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	564093

Definitions/Glossary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1
SDG: Omega Chemical

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS VOA TICs

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248100-1

SDG: Omega Chemical

Laboratory: Eurofins TestAmerica, Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State Program	CA ELAP 2706	06-30-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	1,2-Dichloro-1,1,2-trifluoroethane
8260B		Water	Dichlorofluoromethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C. Job Number: 440-248100-1
SDG Number: Omega Chemical

Login Number: 248100

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True		
The cooler's custody seal, if present, is intact.	N/A	Not present	
Sample custody seals, if present, are intact.	N/A	Not Present	
The cooler or samples do not appear to have been compromised or tampered with.	True		
Samples were received on ice.	True		
Cooler Temperature is acceptable.	True		
Cooler Temperature is recorded.	True		
COC is present.	True		
COC is filled out in ink and legible.	True		
COC is filled out with all pertinent information.	True		
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.	
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		



Environment Testing
TestAmerica

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ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-248179-1

Laboratory Sample Delivery Group: Whittier, CA
Client Project/Site: Omega Chemical - ISCO

For:

Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson

Danielle Roberts

Authorized for release by:
8/30/2019 1:53:00 PM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-248179-1	Composite_20190816	Water	08/16/19 09:20	08/16/19 12:40	
440-248179-2	Grab_20190816	Water	08/16/19 09:30	08/16/19 12:40	

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Case Narrative

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Job ID: 440-248179-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-248179-1

Comments

No additional comments.

Receipt

The samples were received on 8/16/2019 12:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

GC/MS VOA

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-564140 recovered above the upper control limit for Isopropyl alcohol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: Grab_20190816 (440-248179-2) and (CCV 440-564140/3).

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 440-564140 recovered outside control limits for the following analyte: Isopropyl alcohol. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270C: The laboratory control sample (LCS) for preparation batch 440-563925 and analytical batch 440-564233 recovered outside control limits for the following analyte(s): 4-Chloroaniline has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method(s) 8270C: The RPD of the laboratory control sample duplicate (LCSD) for batch preparation batch 440-563925 and analytical batch 440-564233 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, 4-Chloroaniline and Hexachlorocyclopentadiene.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Client Sample ID: Composite_20190816

Lab Sample ID: 440-248179-1

No Detections.

Client Sample ID: Grab_20190816

Lab Sample ID: 440-248179-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	19		0.54	ug/L	1		8270C SIM	Total/NA
pH	8.7	HF	0.1	SU	1		SM 4500 H+ B	Total/NA
Field pH	8.66			SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Client Sample ID: Composite_20190816

Date Collected: 08/16/19 09:20
Date Received: 08/16/19 12:40

Lab Sample ID: 440-248179-1

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	mg/L			08/21/19 16:32	1
Chemical Oxygen Demand	ND		20	mg/L			08/21/19 14:36	1

Client Sample ID: Grab_20190816

Date Collected: 08/16/19 09:30
Date Received: 08/16/19 12:40

Lab Sample ID: 440-248179-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			08/20/19 02:51	1
1,1,1-Trichloroethane	ND		1.0	ug/L			08/20/19 02:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			08/20/19 02:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			08/20/19 02:51	1
1,1,2-Trichloroethane	ND		1.0	ug/L			08/20/19 02:51	1
2-Chloroethyl vinyl ether	ND		2.0	ug/L			08/19/19 09:58	1
1,1-Dichloroethane	ND		1.0	ug/L			08/20/19 02:51	1
Acrolein	ND		5.0	ug/L			08/19/19 09:58	1
1,1-Dichloroethene	ND		1.0	ug/L			08/20/19 02:51	1
Acrylonitrile	ND		2.0	ug/L			08/19/19 09:58	1
1,1-Dichloropropene	ND		1.0	ug/L			08/20/19 02:51	1
Total Volatile Organic Compounds	ND		150	ug/L			08/19/19 09:58	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			08/20/19 02:51	1
1,2,3-Trichloropropane	ND		1.0	ug/L			08/20/19 02:51	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			08/20/19 02:51	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			08/20/19 02:51	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			08/20/19 02:51	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			08/20/19 02:51	1
1,2-Dichlorobenzene	ND		1.0	ug/L			08/20/19 02:51	1
1,2-Dichloroethane	ND		1.0	ug/L			08/20/19 02:51	1
1,2-Dichloropropane	ND		1.0	ug/L			08/20/19 02:51	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			08/20/19 02:51	1
1,3-Dichlorobenzene	ND		1.0	ug/L			08/20/19 02:51	1
1,3-Dichloropropane	ND		1.0	ug/L			08/20/19 02:51	1
1,4-Dichlorobenzene	ND		1.0	ug/L			08/20/19 02:51	1
2,2-Dichloropropane	ND		1.0	ug/L			08/20/19 02:51	1
2-Chlorotoluene	ND		1.0	ug/L			08/20/19 02:51	1
4-Chlorotoluene	ND		1.0	ug/L			08/20/19 02:51	1
Acetone	ND		10	ug/L			08/20/19 02:51	1
Benzene	ND		0.50	ug/L			08/20/19 02:51	1
Bromobenzene	ND		1.0	ug/L			08/20/19 02:51	1
Bromochloromethane	ND		1.0	ug/L			08/20/19 02:51	1
Bromodichloromethane	ND		1.0	ug/L			08/20/19 02:51	1
Bromoform	ND		1.0	ug/L			08/20/19 02:51	1
Bromomethane	ND		1.0	ug/L			08/20/19 02:51	1
Carbon tetrachloride	ND		0.50	ug/L			08/20/19 02:51	1
Chlorobenzene	ND		1.0	ug/L			08/20/19 02:51	1
Chloroethane	ND		1.0	ug/L			08/20/19 02:51	1
Chloroform	ND		1.0	ug/L			08/20/19 02:51	1
Chloromethane	ND		1.0	ug/L			08/20/19 02:51	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			08/20/19 02:51	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Client Sample ID: Grab_20190816

Date Collected: 08/16/19 09:30

Date Received: 08/16/19 12:40

Lab Sample ID: 440-248179-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	ug/L		08/20/19 02:51		1
Dibromochloromethane	ND		1.0	ug/L		08/20/19 02:51		1
Dibromomethane	ND		1.0	ug/L		08/20/19 02:51		1
Dichlorodifluoromethane	ND		1.0	ug/L		08/20/19 02:51		1
Ethylbenzene	ND		1.0	ug/L		08/20/19 02:51		1
Hexachlorobutadiene	ND		1.0	ug/L		08/20/19 02:51		1
Isopropylbenzene	ND		1.0	ug/L		08/20/19 02:51		1
m,p-Xylene	ND		1.0	ug/L		08/20/19 02:51		1
Methylene Chloride	ND		5.0	ug/L		08/20/19 02:51		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		08/20/19 02:51		1
Naphthalene	ND		1.0	ug/L		08/20/19 02:51		1
n-Butylbenzene	ND		1.0	ug/L		08/20/19 02:51		1
N-Propylbenzene	ND		1.0	ug/L		08/20/19 02:51		1
o-Xylene	ND		1.0	ug/L		08/20/19 02:51		1
p-Isopropyltoluene	ND		1.0	ug/L		08/20/19 02:51		1
sec-Butylbenzene	ND		1.0	ug/L		08/20/19 02:51		1
Styrene	ND		1.0	ug/L		08/20/19 02:51		1
tert-Butylbenzene	ND		1.0	ug/L		08/20/19 02:51		1
Tetrachloroethene	ND		1.0	ug/L		08/20/19 02:51		1
Toluene	ND		1.0	ug/L		08/20/19 02:51		1
trans-1,2-Dichloroethene	ND		1.0	ug/L		08/20/19 02:51		1
trans-1,3-Dichloropropene	ND		0.50	ug/L		08/20/19 02:51		1
Trichloroethene	ND		1.0	ug/L		08/20/19 02:51		1
Trichlorofluoromethane	ND		1.0	ug/L		08/20/19 02:51		1
Vinyl chloride	ND		0.50	ug/L		08/20/19 02:51		1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		70 - 130		08/19/19 09:58	1
4-Bromofluorobenzene (Surr)	97		80 - 120		08/19/19 09:58	1
Dibromofluoromethane (Surr)	109		76 - 132		08/19/19 09:58	1
Toluene-d8 (Surr)	95		80 - 128		08/19/19 09:58	1
1,2-Dichloroethane-d4 (Surr)	114		70 - 130		08/20/19 02:51	1
4-Bromofluorobenzene (Surr)	95		80 - 120		08/20/19 02:51	1
Dibromofluoromethane (Surr)	109		76 - 132		08/20/19 02:51	1
Toluene-d8 (Surr)	102		80 - 128		08/20/19 02:51	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	ug/L		08/26/19 12:05		1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	67	X	70 - 130		08/26/19 12:05	1
4-Bromofluorobenzene (Surr)	96		80 - 120		08/26/19 12:05	1
Dibromofluoromethane (Surr)	90		76 - 132		08/26/19 12:05	1
Toluene-d8 (Surr)	110		80 - 128		08/26/19 12:05	1

Method: 8270C SIM - 1,4 Dioxane by SIM

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	19		0.54	ug/L		08/18/19 12:18	08/19/19 23:17	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Client Sample ID: Grab_20190816

Date Collected: 08/16/19 09:30

Date Received: 08/16/19 12:40

Lab Sample ID: 440-248179-2

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	57		27 - 120	08/18/19 12:18	08/19/19 23:17	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
1,2-Dichlorobenzene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
1,2-Diphenylhydrazine(as Azobenzene)	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
1,3-Dichlorobenzene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
1,4-Dichlorobenzene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2,4,5-Trichlorophenol	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
2,4,6-Trichlorophenol	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
2,4-Dichlorophenol	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2,4-Dimethylphenol	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
2,4-Dinitrophenol	ND		44	ug/L	08/18/19 12:41	08/21/19 01:01		1
2,4-Dinitrotoluene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2,6-Dinitrotoluene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2-Chloronaphthalene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2-Chlorophenol	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2-Methylnaphthalene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2-Methylphenol	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2-Nitroaniline	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
2-Nitrophenol	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
3,3'-Dichlorobenzidine	ND *		44	ug/L	08/18/19 12:41	08/21/19 01:01		1
3-Methylphenol + 4-Methylphenol	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
3-Nitroaniline	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
4,6-Dinitro-2-methylphenol	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
4-Bromophenyl phenyl ether	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
4-Chloro-3-methylphenol	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
4-Chloroaniline	ND *		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
4-Chlorophenyl phenyl ether	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
4-Nitroaniline	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
4-Nitrophenol	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
Acenaphthene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Acenaphthylene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Aniline	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Anthracene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzidine	ND		44	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzo[a]anthracene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzo[a]pyrene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzo[b]fluoranthene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzo[g,h,i]perylene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzo[k]fluoranthene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzoic acid	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzyl alcohol	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
bis (2-chloroisopropyl) ether	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Bis(2-chloroethoxy)methane	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Bis(2-chloroethyl)ether	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Bis(2-ethylhexyl) phthalate	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
Butyl benzyl phthalate	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Client Sample ID: Grab_20190816

Lab Sample ID: 440-248179-2

Date Collected: 08/16/19 09:30

Matrix: Water

Date Received: 08/16/19 12:40

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Dibenz(a,h)anthracene	ND		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
Dibenzofuran	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Diethyl phthalate	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Dimethyl phthalate	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Di-n-butyl phthalate	ND		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
Di-n-octyl phthalate	ND		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
Fluoranthene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Fluorene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Hexachlorobenzene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Hexachlorobutadiene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Hexachlorocyclopentadiene	ND *		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
Hexachloroethane	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Indeno[1,2,3-cd]pyrene	ND		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
Isophorone	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Naphthalene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Nitrobenzene	ND		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
N-Nitrosodimethylamine	ND		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
N-Nitrosodi-n-propylamine	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
N-Nitrosodiphenylamine	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Pentachlorophenol	ND		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
Phenanthrene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Phenol	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Pyrene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	91		40 - 120	08/18/19 12:41	08/21/19 01:01	1
2-Fluorobiphenyl	79		50 - 120	08/18/19 12:41	08/21/19 01:01	1
2-Fluorophenol (Surr)	71		30 - 120	08/18/19 12:41	08/21/19 01:01	1
Nitrobenzene-d5 (Surr)	76		45 - 120	08/18/19 12:41	08/21/19 01:01	1
Phenol-d6 (Surr)	72		35 - 120	08/18/19 12:41	08/21/19 01:01	1
Terphenyl-d14 (Surr)	49		10 - 150	08/18/19 12:41	08/21/19 01:01	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.7	HF	0.1	SU		08/19/19 15:13		1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Dissolved	ND		0.050	mg/L		08/19/19 15:50	08/19/19 16:49	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	8.66			SU		08/16/19 09:30		1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-248179-2	Grab_20190816	115	97	109	95
440-248179-2	Grab_20190816	114	95	109	102
440-248179-2 - RA	Grab_20190816	67 X	96	90	110
440-248179-2 MS	Grab_20190816	116	99	105	88
440-248179-2 MSD	Grab_20190816	120	98	106	89
440-248319-A-1 MS	Matrix Spike	121	98	108	90
440-248319-A-1 MSD	Matrix Spike Duplicate	118	99	107	96
440-248662-A-3 MS	Matrix Spike	66 X	91	90	103
440-248662-A-3 MSD	Matrix Spike Duplicate	66 X	92	89	106
LCS 440-563964/26	Lab Control Sample	103	103	105	87
LCS 440-564140/1003	Lab Control Sample	109	93	108	95
LCS 440-564140/5	Lab Control Sample	121	99	108	89
LCS 440-565352/1003	Lab Control Sample	71	96	92	105
MB 440-563964/4	Method Blank	115	101	110	100
MB 440-564140/4	Method Blank	120	98	110	95
MB 440-565352/4	Method Blank	69 X	96	94	106

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (40-120)	FBP (50-120)	2FP (30-120)	NBZ (45-120)	PHL6 (35-120)	TPHL (10-150)
440-248179-2	Grab_20190816	91	79	71	76	72	49
LCS 440-563925/2-A	Lab Control Sample	103	80	71	77	72	104
LCSD 440-563925/3-A	Lab Control Sample Dup	92	72	68	72	71	87
MB 440-563925/1-A	Method Blank	82	70	57	62	58	97

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

PHL6 = Phenol-d6 (Surr)

TPHL = Terphenyl-d14 (Surr)

Method: 8270C SIM - 1,4 Dioxane by SIM

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DXE (27-120)			
440-248179-2	Grab_20190816	57			
440-248220-E-1-A MS	Matrix Spike	76			
440-248220-E-1-B MSD	Matrix Spike Duplicate	70			

Eurofins TestAmerica, Irvine

Surrogate Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1

SDG: Whittier, CA

Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	DXE (27-120)	Percent Surrogate Recovery (Acceptance Limits)											
			74	75	76	77	78	79	80	81	82	83	84	85
LCS 440-563923/3-A	Lab Control Sample	74												
MB 440-563923/1-A	Method Blank	62												

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	1,4 Dioxane by SIM	SW846	TAL IRV
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL IRV
SM 4500 H+ B	pH	SM	TAL IRV
SM 4500 S2 D	Sulfide, Total	SM	TAL IRV
SM 5220D	COD	SM	TAL IRV
Field Sampling	Field Sampling	EPA	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV
SM 4500 S2 B	Sulfide, Separation of Soluble and Insoluble	SM	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Client Sample ID: Composite_20190816

Lab Sample ID: 440-248179-1

Matrix: Water

Date Collected: 08/16/19 09:20

Date Received: 08/16/19 12:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	564674	08/21/19 16:32	HTL	TAL IRV
Total/NA	Analysis	SM 5220D		1	2 mL	2 mL	564644	08/21/19 14:36	KYP	TAL IRV

Client Sample ID: Grab_20190816

Lab Sample ID: 440-248179-2

Matrix: Water

Date Collected: 08/16/19 09:30

Date Received: 08/16/19 12:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565352	08/26/19 12:05	AI	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	563964	08/19/19 09:58	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	564140	08/20/19 02:51	WC	TAL IRV
Total/NA	Prep	3520C			905 mL	2.0 mL	563925	08/18/19 12:41	HCK	TAL IRV
Total/NA	Analysis	8270C		1			564438	08/21/19 01:01	L1B	TAL IRV
Total/NA	Prep	3520C			925 mL	1.0 mL	563923	08/18/19 12:18	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564123	08/19/19 23:17	YCL	TAL IRV
Total/NA	Analysis	SM 4500 H+ B		1			564053	08/19/19 15:13	ST	TAL IRV
Dissolved	Prep	SM 4500 S2 B			7.5 mL	7.5 mL	564127	08/19/19 15:50	KMY	TAL IRV
Dissolved	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	564157	08/19/19 16:49	KMY	TAL IRV
Total/NA	Analysis	Field Sampling		1			563942	08/16/19 09:30	P1A	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-563964/4

Matrix: Water

Analysis Batch: 563964

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		2.0	ug/L			08/19/19 08:29	1
Acrolein	ND		5.0	ug/L			08/19/19 08:29	1
Acrylonitrile	ND		2.0	ug/L			08/19/19 08:29	1
Total Volatile Organic Compounds	ND		150	ug/L			08/19/19 08:29	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		70 - 130		08/19/19 08:29	1
4-Bromofluorobenzene (Surr)	101		80 - 120		08/19/19 08:29	1
Dibromofluoromethane (Surr)	110		76 - 132		08/19/19 08:29	1
Toluene-d8 (Surr)	100		80 - 128		08/19/19 08:29	1

Lab Sample ID: LCS 440-563964/26

Matrix: Water

Analysis Batch: 563964

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
2-Chloroethyl vinyl ether	10.0	14.3		ug/L		143	37 - 150
Acrolein	9.88	12.5		ug/L		127	10 - 145
Acrylonitrile	100	99.7		ug/L		100	48 - 140
Total Volatile Organic Compounds	2150	2080		ug/L		97	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 130
4-Bromofluorobenzene (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	105		76 - 132
Toluene-d8 (Surr)	87		80 - 128

Lab Sample ID: 440-248179-2 MS

Matrix: Water

Analysis Batch: 563964

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.
2-Chloroethyl vinyl ether	ND		10.0	11.2		ug/L		112	10 - 140
Acrolein	ND		9.88	11.1		ug/L		113	10 - 147
Acrylonitrile	ND		100	120		ug/L		120	38 - 144
Total Volatile Organic Compounds	ND		2150	1960		ug/L		91	

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	116		70 - 130
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	105		76 - 132
Toluene-d8 (Surr)	88		80 - 128

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Client Sample ID: Grab_20190816

Prep Type: Total/NA

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248179-2 MSD

Matrix: Water

Analysis Batch: 563964

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD RPD	RPD Limit
2-Chloroethyl vinyl ether	ND		10.0	10.8		ug/L		108	10 - 140	4	35
Acrolein	ND		9.88	10.0		ug/L		101	10 - 147	11	40
Acrylonitrile	ND		100	112		ug/L		112	38 - 144	7	40
Total Volatile Organic Compounds	ND		2150	2110		ug/L		98		7	30

Client Sample ID: Grab_20190816

Prep Type: Total/NA

MSD MSD

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	120		70 - 130
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	106		76 - 132
Toluene-d8 (Surr)	89		80 - 128

Lab Sample ID: MB 440-564140/4

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Method Blank

Prep Type: Total/NA

MB MB

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			08/19/19 21:24	1
1,1,1-Trichloroethane	ND		1.0	ug/L			08/19/19 21:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			08/19/19 21:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			08/19/19 21:24	1
1,1,2-Trichloroethane	ND		1.0	ug/L			08/19/19 21:24	1
1,1-Dichloroethane	ND		1.0	ug/L			08/19/19 21:24	1
1,1-Dichloroethene	ND		1.0	ug/L			08/19/19 21:24	1
1,1-Dichloropropene	ND		1.0	ug/L			08/19/19 21:24	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			08/19/19 21:24	1
1,2,3-Trichloropropane	ND		1.0	ug/L			08/19/19 21:24	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			08/19/19 21:24	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			08/19/19 21:24	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			08/19/19 21:24	1
1,2-Dichlorobenzene	ND		1.0	ug/L			08/19/19 21:24	1
1,2-Dichloroethane	ND		1.0	ug/L			08/19/19 21:24	1
1,2-Dichloropropane	ND		1.0	ug/L			08/19/19 21:24	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
1,3-Dichlorobenzene	ND		1.0	ug/L			08/19/19 21:24	1
1,3-Dichloropropane	ND		1.0	ug/L			08/19/19 21:24	1
1,4-Dichlorobenzene	ND		1.0	ug/L			08/19/19 21:24	1
2,2-Dichloropropane	ND		1.0	ug/L			08/19/19 21:24	1
2-Chlorotoluene	ND		1.0	ug/L			08/19/19 21:24	1
4-Chlorotoluene	ND		1.0	ug/L			08/19/19 21:24	1
Acetone	ND		10	ug/L			08/19/19 21:24	1
Benzene	ND		0.50	ug/L			08/19/19 21:24	1
Bromobenzene	ND		1.0	ug/L			08/19/19 21:24	1
Bromochloromethane	ND		1.0	ug/L			08/19/19 21:24	1
Bromodichloromethane	ND		1.0	ug/L			08/19/19 21:24	1
Bromoform	ND		1.0	ug/L			08/19/19 21:24	1
Bromomethane	ND		1.0	ug/L			08/19/19 21:24	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-564140/4

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		0.50	ug/L			08/19/19 21:24	1
Chlorobenzene	ND		1.0	ug/L			08/19/19 21:24	1
Chloroethane	ND		1.0	ug/L			08/19/19 21:24	1
Chloroform	ND		1.0	ug/L			08/19/19 21:24	1
Chloromethane	ND		1.0	ug/L			08/19/19 21:24	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			08/19/19 21:24	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			08/19/19 21:24	1
Dibromochloromethane	ND		1.0	ug/L			08/19/19 21:24	1
Dibromomethane	ND		1.0	ug/L			08/19/19 21:24	1
Dichlorodifluoromethane	ND		1.0	ug/L			08/19/19 21:24	1
Ethylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
Hexachlorobutadiene	ND		1.0	ug/L			08/19/19 21:24	1
Isopropyl alcohol	ND		250	ug/L			08/19/19 21:24	1
Isopropylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
m,p-Xylene	ND		1.0	ug/L			08/19/19 21:24	1
Methylene Chloride	ND		5.0	ug/L			08/19/19 21:24	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L			08/19/19 21:24	1
Naphthalene	ND		1.0	ug/L			08/19/19 21:24	1
n-Butylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
N-Propylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
o-Xylene	ND		1.0	ug/L			08/19/19 21:24	1
p-Isopropyltoluene	ND		1.0	ug/L			08/19/19 21:24	1
sec-Butylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
Styrene	ND		1.0	ug/L			08/19/19 21:24	1
tert-Butylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
Tetrachloroethene	ND		1.0	ug/L			08/19/19 21:24	1
Toluene	ND		1.0	ug/L			08/19/19 21:24	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			08/19/19 21:24	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			08/19/19 21:24	1
Trichloroethene	ND		1.0	ug/L			08/19/19 21:24	1
Trichlorofluoromethane	ND		1.0	ug/L			08/19/19 21:24	1
Vinyl chloride	ND		0.50	ug/L			08/19/19 21:24	1

Surrogate	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		70 - 130			1
4-Bromofluorobenzene (Surr)	98		80 - 120			1
Dibromofluoromethane (Surr)	110		76 - 132			1
Toluene-d8 (Surr)	95		80 - 128			1

Lab Sample ID: LCS 440-564140/1003

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol	250	417	*	ug/L		167	49 - 142
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	109		70 - 130				

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-564140/1003

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	93				80 - 120
Dibromofluoromethane (Surr)	108				76 - 132
Toluene-d8 (Surr)	95				80 - 128

Lab Sample ID: LCS 440-564140/5

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
1,1,1,2-Tetrachloroethane	10.0	9.48		ug/L		95	60 - 141	
1,1,1-Trichloroethane	10.0	10.1		ug/L		101	70 - 130	
1,1,2,2-Tetrachloroethane	10.0	11.7		ug/L		117	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.49		ug/L		95	60 - 140	
1,1,2-Trichloroethane	10.0	10.4		ug/L		104	70 - 130	
1,1-Dichloroethane	10.0	10.1		ug/L		101	64 - 130	
1,1-Dichloroethene	10.0	9.51		ug/L		95	70 - 130	
1,1-Dichloropropene	10.0	9.09		ug/L		91	70 - 130	
1,2,3-Trichlorobenzene	10.0	11.2		ug/L		112	60 - 140	
1,2,3-Trichloropropane	10.0	12.6		ug/L		126	63 - 130	
1,2,4-Trichlorobenzene	10.0	11.0		ug/L		110	60 - 140	
1,2,4-Trimethylbenzene	10.0	10.2		ug/L		102	70 - 135	
1,2-Dibromo-3-Chloropropane	10.0	13.1		ug/L		131	52 - 140	
1,2-Dibromoethane (EDB)	10.0	10.9		ug/L		109	70 - 130	
1,2-Dichlorobenzene	10.0	10.5		ug/L		105	70 - 130	
1,2-Dichloroethane	10.0	11.2		ug/L		112	57 - 138	
1,2-Dichloropropane	10.0	10.3		ug/L		103	67 - 130	
1,3,5-Trimethylbenzene	10.0	10.1		ug/L		101	70 - 136	
1,3-Dichlorobenzene	10.0	10.4		ug/L		104	70 - 130	
1,3-Dichloropropane	10.0	10.3		ug/L		103	70 - 130	
1,4-Dichlorobenzene	10.0	9.91		ug/L		99	70 - 130	
2,2-Dichloropropane	10.0	8.91		ug/L		89	68 - 141	
2-Chlorotoluene	10.0	9.66		ug/L		97	70 - 130	
4-Chlorotoluene	10.0	10.2		ug/L		102	70 - 130	
Acetone	50.0	55.2		ug/L		110	10 - 150	
Benzene	10.0	9.60		ug/L		96	68 - 130	
Bromobenzene	10.0	9.70		ug/L		97	70 - 130	
Bromochloromethane	10.0	11.3		ug/L		113	70 - 130	
Bromodichloromethane	10.0	10.9		ug/L		109	70 - 132	
Bromoform	10.0	11.5		ug/L		115	60 - 148	
Bromomethane	10.0	9.17		ug/L		92	64 - 139	
Carbon tetrachloride	10.0	10.0		ug/L		100	60 - 150	
Chlorobenzene	10.0	8.99		ug/L		90	70 - 130	
Chloroethane	10.0	8.92		ug/L		89	64 - 135	
Chloroform	10.0	10.5		ug/L		105	70 - 130	
Chloromethane	10.0	8.29		ug/L		83	47 - 140	
cis-1,2-Dichloroethene	10.0	10.7		ug/L		107	70 - 133	
cis-1,3-Dichloropropene	10.0	9.54		ug/L		95	70 - 133	
Dibromochloromethane	10.0	10.7		ug/L		107	69 - 145	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-564140/5

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Dibromomethane	10.0	11.8		ug/L		118	70 - 130
Dichlorodifluoromethane	10.0	7.95		ug/L		79	29 - 150
Ethylbenzene	10.0	9.17		ug/L		92	70 - 130
Hexachlorobutadiene	10.0	9.81		ug/L		98	10 - 150
Isopropylbenzene	10.0	9.59		ug/L		96	70 - 136
m,p-Xylene	10.0	9.06		ug/L		91	70 - 130
Methylene Chloride	10.0	10.2		ug/L		102	52 - 130
Methyl-t-Butyl Ether (MTBE)	10.0	12.6		ug/L		126	63 - 131
Naphthalene	10.0	12.7		ug/L		127	60 - 140
n-Butylbenzene	10.0	10.1		ug/L		101	65 - 150
N-Propylbenzene	10.0	9.72		ug/L		97	67 - 139
o-Xylene	10.0	10.0		ug/L		100	70 - 130
p-Isopropyltoluene	10.0	9.74		ug/L		97	70 - 132
sec-Butylbenzene	10.0	9.93		ug/L		99	70 - 138
Styrene	10.0	9.66		ug/L		97	70 - 134
tert-Butylbenzene	10.0	9.54		ug/L		95	70 - 130
Tetrachloroethene	10.0	8.66		ug/L		87	70 - 130
Toluene	10.0	8.61		ug/L		86	70 - 130
trans-1,2-Dichloroethene	10.0	9.75		ug/L		97	70 - 130
trans-1,3-Dichloropropene	10.0	10.5		ug/L		105	70 - 132
Trichloroethene	10.0	9.74		ug/L		97	70 - 130
Trichlorofluoromethane	10.0	9.40		ug/L		94	60 - 150
Vinyl chloride	10.0	8.77		ug/L		88	59 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	121		70 - 130
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	108		76 - 132
Toluene-d8 (Surr)	89		80 - 128

Lab Sample ID: 440-248319-A-1 MS

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,1,1,2-Tetrachloroethane	ND		10.0	9.49		ug/L		95	60 - 149
1,1,1-Trichloroethane	ND		10.0	9.74		ug/L		97	70 - 130
1,1,2,2-Tetrachloroethane	ND		10.0	11.8		ug/L		118	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	9.32		ug/L		93	60 - 140
1,1,2-Trichloroethane	ND		10.0	10.2		ug/L		102	70 - 130
1,1-Dichloroethane	ND		10.0	9.61		ug/L		96	65 - 130
1,1-Dichloroethene	ND		10.0	8.75		ug/L		87	70 - 130
1,1-Dichloropropene	ND		10.0	9.28		ug/L		93	64 - 130
1,2,3-Trichlorobenzene	ND		10.0	11.9		ug/L		119	60 - 140
1,2,3-Trichloropropane	ND	F1	10.0	13.2	F1	ug/L		132	60 - 130
1,2,4-Trichlorobenzene	ND		10.0	11.1		ug/L		111	60 - 140
1,2,4-Trimethylbenzene	ND		10.0	10.6		ug/L		106	70 - 130
1,2-Dibromo-3-Chloropropane	ND		10.0	13.6		ug/L		136	48 - 140

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
 SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248319-A-1 MS

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,2-Dibromoethane (EDB)	ND		10.0	10.5		ug/L		105	70 - 131
1,2-Dichlorobenzene	ND		10.0	10.9		ug/L		109	70 - 130
1,2-Dichloroethane	ND		10.0	10.5		ug/L		105	56 - 146
1,2-Dichloropropane	ND		10.0	9.76		ug/L		98	69 - 130
1,3,5-Trimethylbenzene	ND		10.0	10.4		ug/L		104	70 - 130
1,3-Dichlorobenzene	ND		10.0	10.3		ug/L		103	70 - 130
1,3-Dichloropropane	ND		10.0	9.87		ug/L		99	70 - 130
1,4-Dichlorobenzene	ND		10.0	10.2		ug/L		102	70 - 130
2,2-Dichloropropane	ND		10.0	9.52		ug/L		95	69 - 138
2-Chlorotoluene	ND		10.0	9.79		ug/L		98	70 - 130
4-Chlorotoluene	ND		10.0	10.4		ug/L		104	70 - 130
Acetone	ND		50.0	50.8		ug/L		102	10 - 150
Benzene	ND		10.0	9.35		ug/L		93	66 - 130
Bromobenzene	ND		10.0	9.79		ug/L		98	70 - 130
Bromochloromethane	ND		10.0	11.1		ug/L		111	70 - 130
Bromodichloromethane	ND		10.0	10.2		ug/L		102	70 - 138
Bromoform	ND		10.0	11.1		ug/L		111	59 - 150
Bromomethane	ND		10.0	8.58		ug/L		86	62 - 131
Carbon tetrachloride	ND		10.0	10.1		ug/L		101	60 - 150
Chlorobenzene	ND		10.0	9.00		ug/L		90	70 - 130
Chloroethane	ND		10.0	8.23		ug/L		82	68 - 130
Chloroform	ND		10.0	9.91		ug/L		99	70 - 130
Chloromethane	ND		10.0	7.60		ug/L		76	39 - 144
cis-1,2-Dichloroethene	ND		10.0	9.69		ug/L		97	70 - 130
cis-1,3-Dichloropropene	ND		10.0	9.20		ug/L		92	70 - 133
Dibromochloromethane	ND		10.0	10.6		ug/L		106	70 - 148
Dibromomethane	ND		10.0	10.7		ug/L		107	70 - 130
Dichlorodifluoromethane	ND		10.0	7.18		ug/L		72	25 - 142
Ethylbenzene	ND		10.0	8.99		ug/L		90	70 - 130
Hexachlorobutadiene	ND		10.0	10.6		ug/L		106	10 - 150
Isopropylbenzene	ND		10.0	9.58		ug/L		96	70 - 132
m,p-Xylene	ND		10.0	9.15		ug/L		92	70 - 133
Methylene Chloride	ND		10.0	9.65		ug/L		96	52 - 130
Methyl-t-Butyl Ether (MTBE)	4.5		10.0	16.0		ug/L		116	70 - 130
Naphthalene	ND		10.0	12.5		ug/L		125	60 - 140
n-Butylbenzene	ND		10.0	10.7		ug/L		107	61 - 149
N-Propylbenzene	ND		10.0	10.1		ug/L		101	66 - 135
o-Xylene	ND		10.0	9.93		ug/L		99	70 - 133
p-Isopropyltoluene	ND		10.0	10.3		ug/L		103	70 - 130
sec-Butylbenzene	ND		10.0	10.5		ug/L		105	67 - 134
Styrene	ND		10.0	9.37		ug/L		94	29 - 150
tert-Butylbenzene	ND		10.0	10.0		ug/L		100	70 - 130
Tetrachloroethene	ND		10.0	8.82		ug/L		88	70 - 137
Toluene	ND		10.0	8.50		ug/L		85	70 - 130
trans-1,2-Dichloroethene	ND		10.0	9.13		ug/L		91	70 - 130
trans-1,3-Dichloropropene	ND		10.0	10.3		ug/L		103	70 - 138
Trichloroethene	ND		10.0	9.61		ug/L		93	70 - 130
Trichlorofluoromethane	ND		10.0	9.31		ug/L		93	60 - 150
Vinyl chloride	ND		10.0	8.11		ug/L		81	50 - 137

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
 SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	121		70 - 130
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	108		76 - 132
Toluene-d8 (Surr)	90		80 - 128

Lab Sample ID: 440-248319-A-1 MSD

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec.	%Rec.		RPD	Limit
				Result	Qualifier				Limits	RPD		
1,1,1,2-Tetrachloroethane	ND		10.0	9.98		ug/L	100	60 - 149		5	20	
1,1,1-Trichloroethane	ND		10.0	9.03		ug/L	90	70 - 130		8	20	
1,1,2,2-Tetrachloroethane	ND		10.0	11.3		ug/L	113	63 - 130		5	30	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	8.63		ug/L	86	60 - 140		8	20	
1,1,2-Trichloroethane	ND		10.0	11.0		ug/L	110	70 - 130		7	25	
1,1-Dichloroethane	ND		10.0	9.03		ug/L	90	65 - 130		6	20	
1,1-Dichloroethene	ND		10.0	8.32		ug/L	83	70 - 130		5	20	
1,1-Dichloropropene	ND		10.0	8.45		ug/L	85	64 - 130		9	20	
1,2,3-Trichlorobenzene	ND		10.0	11.6		ug/L	116	60 - 140		3	20	
1,2,3-Trichloropropane	ND F1		10.0	12.8		ug/L	128	60 - 130		3	30	
1,2,4-Trichlorobenzene	ND		10.0	11.4		ug/L	114	60 - 140		2	20	
1,2,4-Trimethylbenzene	ND		10.0	10.4		ug/L	104	70 - 130		1	25	
1,2-Dibromo-3-Chloropropane	ND		10.0	12.7		ug/L	127	48 - 140		7	30	
1,2-Dibromoethane (EDB)	ND		10.0	10.9		ug/L	109	70 - 131		3	25	
1,2-Dichlorobenzene	ND		10.0	10.5		ug/L	105	70 - 130		3	20	
1,2-Dichloroethane	ND		10.0	10.2		ug/L	102	56 - 146		3	20	
1,2-Dichloropropane	ND		10.0	9.42		ug/L	94	69 - 130		4	20	
1,3,5-Trimethylbenzene	ND		10.0	9.97		ug/L	100	70 - 130		4	20	
1,3-Dichlorobenzene	ND		10.0	10.4		ug/L	104	70 - 130		0	20	
1,3-Dichloropropane	ND		10.0	10.4		ug/L	104	70 - 130		5	25	
1,4-Dichlorobenzene	ND		10.0	9.88		ug/L	99	70 - 130		3	20	
2,2-Dichloropropane	ND		10.0	8.76		ug/L	88	69 - 138		8	25	
2-Chlorotoluene	ND		10.0	9.75		ug/L	98	70 - 130		0	20	
4-Chlorotoluene	ND		10.0	10.2		ug/L	102	70 - 130		2	20	
Acetone	ND		50.0	44.9		ug/L	90	10 - 150		12	35	
Benzene	ND		10.0	8.76		ug/L	88	66 - 130		6	20	
Bromobenzene	ND		10.0	9.70		ug/L	97	70 - 130		1	20	
Bromochloromethane	ND		10.0	10.3		ug/L	103	70 - 130		7	25	
Bromodichloromethane	ND		10.0	9.82		ug/L	98	70 - 138		4	20	
Bromoform	ND		10.0	11.6		ug/L	116	59 - 150		5	25	
Bromomethane	ND		10.0	8.07		ug/L	81	62 - 131		6	25	
Carbon tetrachloride	ND		10.0	9.18		ug/L	92	60 - 150		9	25	
Chlorobenzene	ND		10.0	9.32		ug/L	93	70 - 130		3	20	
Chloroethane	ND		10.0	7.80		ug/L	78	68 - 130		5	25	
Chloroform	ND		10.0	9.41		ug/L	94	70 - 130		5	20	
Chloromethane	ND		10.0	7.12		ug/L	71	39 - 144		7	25	
cis-1,2-Dichloroethene	ND		10.0	9.20		ug/L	92	70 - 130		5	20	
cis-1,3-Dichloropropene	ND		10.0	9.85		ug/L	99	70 - 133		7	20	
Dibromochloromethane	ND		10.0	11.2		ug/L	112	70 - 148		6	25	
Dibromomethane	ND		10.0	10.5		ug/L	105	70 - 130		1	25	
Dichlorodifluoromethane	ND		10.0	6.66		ug/L	67	25 - 142		8	30	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248319-A-1 MSD

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD	RPD Limit	
Ethylbenzene	ND		10.0	9.42		ug/L		94	70 - 130	5	20
Hexachlorobutadiene	ND		10.0	10.2		ug/L		102	10 - 150	3	20
Isopropylbenzene	ND		10.0	10.0		ug/L		100	70 - 132	4	20
m,p-Xylene	ND		10.0	9.61		ug/L		96	70 - 133	5	25
Methylene Chloride	ND		10.0	9.17		ug/L		92	52 - 130	5	20
Methyl-t-Butyl Ether (MTBE)	4.5		10.0	15.7		ug/L		112	70 - 130	2	25
Naphthalene	ND		10.0	12.3		ug/L		123	60 - 140	2	30
n-Butylbenzene	ND		10.0	10.4		ug/L		104	61 - 149	3	20
N-Propylbenzene	ND		10.0	9.88		ug/L		99	66 - 135	2	20
o-Xylene	ND		10.0	10.2		ug/L		102	70 - 133	2	20
p-Isopropyltoluene	ND		10.0	10.1		ug/L		101	70 - 130	2	20
sec-Butylbenzene	ND		10.0	10.2		ug/L		102	67 - 134	3	20
Styrene	ND		10.0	9.83		ug/L		98	29 - 150	5	35
tert-Butylbenzene	ND		10.0	9.93		ug/L		99	70 - 130	1	20
Tetrachloroethene	ND		10.0	9.37		ug/L		94	70 - 137	6	20
Toluene	ND		10.0	8.85		ug/L		89	70 - 130	4	20
trans-1,2-Dichloroethene	ND		10.0	8.86		ug/L		89	70 - 130	3	20
trans-1,3-Dichloropropene	ND		10.0	10.7		ug/L		107	70 - 138	3	25
Trichloroethene	ND		10.0	9.42		ug/L		91	70 - 130	2	20
Trichlorofluoromethane	ND		10.0	8.39		ug/L		84	60 - 150	10	25
Vinyl chloride	ND		10.0	7.61		ug/L		76	50 - 137	6	30

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	118		70 - 130
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	107		76 - 132
Toluene-d8 (Surr)	96		80 - 128

Lab Sample ID: MB 440-565352/4

Matrix: Water

Analysis Batch: 565352

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	ug/L			08/26/19 07:54	1
Surrogate								
Surrogate								
1,2-Dichloroethane-d4 (Surr)	69	X	70 - 130			Prepared	08/26/19 07:54	1
4-Bromofluorobenzene (Surr)	96		80 - 120				08/26/19 07:54	1
Dibromofluoromethane (Surr)	94		76 - 132				08/26/19 07:54	1
Toluene-d8 (Surr)	106		80 - 128				08/26/19 07:54	1

Lab Sample ID: LCS 440-565352/1003

Matrix: Water

Analysis Batch: 565352

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
Isopropyl alcohol	250	211	J	ug/L		84	49 - 142

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-565352/1003

Matrix: Water

Analysis Batch: 565352

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	71				70 - 130
4-Bromofluorobenzene (Surr)	96				80 - 120
Dibromofluoromethane (Surr)	92				76 - 132
Toluene-d8 (Surr)	105				80 - 128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Lab Sample ID: 440-248662-A-3 MS

Matrix: Water

Analysis Batch: 565352

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol	ND		250	257		ug/L		103	46 - 142

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	66	X	70 - 130
4-Bromofluorobenzene (Surr)	91		80 - 120
Dibromofluoromethane (Surr)	90		76 - 132
Toluene-d8 (Surr)	103		80 - 128

Lab Sample ID: 440-248662-A-3 MSD

Matrix: Water

Analysis Batch: 565352

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isopropyl alcohol	ND		250	254		ug/L		101	46 - 142	1	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	66	X	70 - 130
4-Bromofluorobenzene (Surr)	92		80 - 120
Dibromofluoromethane (Surr)	89		76 - 132
Toluene-d8 (Surr)	106		80 - 128

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-563925/1-A

Matrix: Water

Analysis Batch: 564233

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
1,2-Dichlorobenzene	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1
1,3-Dichlorobenzene	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
1,4-Dichlorobenzene	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
2,4,5-Trichlorophenol	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1
2,4,6-Trichlorophenol	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1
2,4-Dichlorophenol	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
2,4-Dimethylphenol	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 563925

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-563925/1-A

Matrix: Water

Analysis Batch: 564233

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 563925

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrophenol	ND		40	ug/L	08/18/19 12:41	08/20/19 10:55		1
2,4-Dinitrotoluene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
2,6-Dinitrotoluene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
2-Chloronaphthalene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
2-Chlorophenol	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
2-Methylnaphthalene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
2-Methylphenol	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
2-Nitroaniline	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
2-Nitrophenol	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
3,3'-Dichlorobenzidine	ND		40	ug/L	08/18/19 12:41	08/20/19 10:55		1
3-Methylphenol + 4-Methylphenol	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
3-Nitroaniline	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
4,6-Dinitro-2-methylphenol	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
4-Bromophenyl phenyl ether	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
4-Chloro-3-methylphenol	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
4-Chloroaniline	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
4-Chlorophenyl phenyl ether	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
4-Nitroaniline	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
4-Nitrophenol	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Acenaphthene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Acenaphthylene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Aniline	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Anthracene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzidine	ND		40	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzo[a]anthracene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzo[a]pyrene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzo[b]fluoranthene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzo[g,h,i]perylene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzo[k]fluoranthene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzoic acid	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzyl alcohol	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
bis (2-chloroisopropyl) ether	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Bis(2-chloroethoxy)methane	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Bis(2-chloroethyl)ether	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Bis(2-ethylhexyl) phthalate	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Butyl benzyl phthalate	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Chrysene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Dibenz(a,h)anthracene	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Dibenzofuran	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Diethyl phthalate	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Dimethyl phthalate	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Di-n-butyl phthalate	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Di-n-octyl phthalate	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Fluoranthene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Fluorene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Hexachlorobenzene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Hexachlorobutadiene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Hexachlorocyclopentadiene	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Hexachloroethane	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-563925/1-A

Matrix: Water

Analysis Batch: 564233

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 563925

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1
Isophorone	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
Naphthalene	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
Nitrobenzene	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1
N-Nitrosodimethylamine	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1
N-Nitrosodi-n-propylamine	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
N-Nitrosodiphenylamine	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
Pentachlorophenol	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1
Phenanthrene	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
Phenol	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
Pyrene	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	82		40 - 120	08/18/19 12:41	08/20/19 10:55	1
2-Fluorobiphenyl	70		50 - 120	08/18/19 12:41	08/20/19 10:55	1
2-Fluorophenol (Surr)	57		30 - 120	08/18/19 12:41	08/20/19 10:55	1
Nitrobenzene-d5 (Surr)	62		45 - 120	08/18/19 12:41	08/20/19 10:55	1
Phenol-d6 (Surr)	58		35 - 120	08/18/19 12:41	08/20/19 10:55	1
Terphenyl-d14 (Surr)	97		10 - 150	08/18/19 12:41	08/20/19 10:55	1

Lab Sample ID: LCS 440-563925/2-A

Matrix: Water

Analysis Batch: 564233

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 563925

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec.
1,2,4-Trichlorobenzene	100	76.3		ug/L		76	25 - 84	
1,2-Dichlorobenzene	100	67.6		ug/L		68	24 - 85	
1,2-Diphenylhydrazine(as Azobenzene)	100	73.7		ug/L		74	44 - 113	
1,3-Dichlorobenzene	100	64.4		ug/L		64	20 - 80	
1,4-Dichlorobenzene	100	64.6		ug/L		65	22 - 81	
2,4,5-Trichlorophenol	100	84.2		ug/L		84	24 - 121	
2,4,6-Trichlorophenol	100	87.5		ug/L		87	20 - 121	
2,4-Dichlorophenol	100	87.7		ug/L		88	23 - 113	
2,4-Dimethylphenol	100	79.2		ug/L		79	39 - 94	
2,4-Dinitrophenol	200	218		ug/L		109	23 - 134	
2,4-Dinitrotoluene	100	91.6		ug/L		92	54 - 115	
2,6-Dinitrotoluene	100	93.2		ug/L		93	50 - 115	
2-Chloronaphthalene	100	81.7		ug/L		82	34 - 102	
2-Chlorophenol	100	74.2		ug/L		74	20 - 106	
2-Methylnaphthalene	100	77.6		ug/L		78	34 - 98	
2-Methylphenol	100	71.5		ug/L		72	36 - 103	
2-Nitroaniline	100	77.6		ug/L		78	48 - 111	
2-Nitrophenol	100	84.1		ug/L		84	20 - 117	
3,3'-Dichlorobenzidine	100	29.6	J	ug/L		30	22 - 97	
3-Methylphenol + 4-Methylphenol	100	74.5		ug/L		74	35 - 106	
3-Nitroaniline	100	68.6		ug/L		69	51 - 116	
4,6-Dinitro-2-methylphenol	200	191		ug/L		95	28 - 139	
4-Bromophenyl phenyl ether	100	89.0		ug/L		89	42 - 113	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
 SDG: Whittier, CA

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-563925/2-A

Matrix: Water

Analysis Batch: 564233

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 563925

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
4-Chloro-3-methylphenol	100	83.2		ug/L		83	44 - 110	
4-Chloroaniline	100	37.6	*	ug/L		38	42 - 109	
4-Chlorophenyl phenyl ether	100	84.9		ug/L		85	38 - 115	
4-Nitroaniline	100	73.1		ug/L		73	50 - 116	
4-Nitrophenol	200	164		ug/L		82	26 - 132	
Acenaphthene	100	78.9		ug/L		79	37 - 107	
Acenaphthylene	100	77.6		ug/L		78	39 - 107	
Aniline	100	50.2		ug/L		50	27 - 115	
Anthracene	100	85.2		ug/L		85	42 - 120	
Benzidine	100	22.4	J	ug/L		22	5 - 150	
Benzo[a]anthracene	100	91.2		ug/L		91	42 - 115	
Benzo[a]pyrene	100	79.5		ug/L		80	41 - 117	
Benzo[b]fluoranthene	100	78.2		ug/L		78	36 - 113	
Benzo[g,h,i]perylene	100	91.1		ug/L		91	37 - 115	
Benzo[k]fluoranthene	100	81.4		ug/L		81	42 - 122	
Benzoic acid	100	105		ug/L		105	15 - 121	
Benzyl alcohol	100	71.4		ug/L		71	39 - 106	
bis (2-chloroisopropyl) ether	100	62.2		ug/L		62	38 - 104	
Bis(2-chloroethoxy)methane	100	76.7		ug/L		77	47 - 104	
Bis(2-chloroethyl)ether	100	72.3		ug/L		72	42 - 99	
Bis(2-ethylhexyl) phthalate	100	82.2		ug/L		82	43 - 124	
Butyl benzyl phthalate	100	88.1		ug/L		88	44 - 122	
Chrysene	100	89.8		ug/L		90	42 - 118	
Dibenz(a,h)anthracene	100	86.8		ug/L		87	40 - 114	
Dibenzofuran	100	82.2		ug/L		82	37 - 113	
Diethyl phthalate	100	82.4		ug/L		82	51 - 120	
Dimethyl phthalate	100	84.9		ug/L		85	49 - 113	
Di-n-butyl phthalate	100	85.5		ug/L		85	47 - 125	
Di-n-octyl phthalate	100	88.6		ug/L		89	42 - 125	
Fluoranthene	100	90.7		ug/L		91	44 - 119	
Fluorene	100	80.2		ug/L		80	39 - 116	
Hexachlorobenzene	100	91.4		ug/L		91	43 - 112	
Hexachlorobutadiene	100	70.8		ug/L		71	14 - 77	
Hexachlorocyclopentadiene	100	43.9		ug/L		44	10 - 77	
Hexachloroethane	100	57.3		ug/L		57	13 - 75	
Indeno[1,2,3-cd]pyrene	100	90.8		ug/L		91	35 - 116	
Isophorone	100	78.0		ug/L		78	48 - 107	
Naphthalene	100	77.6		ug/L		78	33 - 95	
Nitrobenzene	100	76.2		ug/L		76	42 - 99	
N-Nitrosodimethylamine	100	67.3		ug/L		67	35 - 96	
N-Nitrosodi-n-propylamine	100	71.7		ug/L		72	44 - 111	
N-Nitrosodiphenylamine	100	76.2		ug/L		76	46 - 116	
Pentachlorophenol	200	182		ug/L		91	26 - 136	
Phenanthrene	100	85.0		ug/L		85	43 - 120	
Phenol	100	80.8		ug/L		81	25 - 99	
Pyrene	100	91.2		ug/L		91	43 - 119	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-563925/2-A

Matrix: Water

Analysis Batch: 564233

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 563925

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surr)			103		40 - 120
2-Fluorobiphenyl			80		50 - 120
2-Fluorophenol (Surr)			71		30 - 120
Nitrobenzene-d5 (Surr)			77		45 - 120
Phenol-d6 (Surr)			72		35 - 120
Terphenyl-d14 (Surr)			104		10 - 150

Lab Sample ID: LCSD 440-563925/3-A

Matrix: Water

Analysis Batch: 564233

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 563925

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.	RPD	RPD Limit
1,2,4-Trichlorobenzene	100	68.9		ug/L		69	25 - 84	10	35
1,2-Dichlorobenzene	100	60.6		ug/L		61	24 - 85	11	35
1,2-Diphenylhydrazine(as Azobenzene)	100	70.4		ug/L		70	44 - 113	5	35
1,3-Dichlorobenzene	100	58.2		ug/L		58	20 - 80	10	35
1,4-Dichlorobenzene	100	58.7		ug/L		59	22 - 81	10	35
2,4,5-Trichlorophenol	100	78.0		ug/L		78	24 - 121	8	35
2,4,6-Trichlorophenol	100	82.1		ug/L		82	20 - 121	6	35
2,4-Dichlorophenol	100	85.0		ug/L		85	23 - 113	3	35
2,4-Dimethylphenol	100	76.5		ug/L		76	39 - 94	4	35
2,4-Dinitrophenol	200	213		ug/L		106	23 - 134	2	35
2,4-Dinitrotoluene	100	87.9		ug/L		88	54 - 115	4	35
2,6-Dinitrotoluene	100	85.2		ug/L		85	50 - 115	9	35
2-Chloronaphthalene	100	76.2		ug/L		76	34 - 102	7	35
2-Chlorophenol	100	72.7		ug/L		73	20 - 106	2	35
2-Methylnaphthalene	100	73.3		ug/L		73	34 - 98	6	35
2-Methylphenol	100	69.5		ug/L		69	36 - 103	3	35
2-Nitroaniline	100	72.3		ug/L		72	48 - 111	7	35
2-Nitrophenol	100	81.7		ug/L		82	20 - 117	3	35
3,3'-Dichlorobenzidine	100	77.7 *		ug/L		78	22 - 97	90	35
3-Methylphenol + 4-Methylphenol	100	74.7		ug/L		75	35 - 106	0	35
3-Nitroaniline	100	74.9		ug/L		75	51 - 116	9	35
4,6-Dinitro-2-methylphenol	200	183		ug/L		92	28 - 139	4	35
4-Bromophenyl phenyl ether	100	82.0		ug/L		82	42 - 113	8	35
4-Chloro-3-methylphenol	100	78.8		ug/L		79	44 - 110	5	35
4-Chloroaniline	100	64.7 *		ug/L		65	42 - 109	53	35
4-Chlorophenyl phenyl ether	100	79.6		ug/L		80	38 - 115	6	35
4-Nitroaniline	100	73.7		ug/L		74	50 - 116	1	35
4-Nitrophenol	200	159		ug/L		80	26 - 132	3	35
Acenaphthene	100	73.4		ug/L		73	37 - 107	7	35
Acenaphthylene	100	73.9		ug/L		74	39 - 107	5	35
Aniline	100	61.8		ug/L		62	27 - 115	21	35
Anthracene	100	82.4		ug/L		82	42 - 120	3	35
Benzidine	100	ND		ug/L		19	5 - 150	18	35
Benzo[a]anthracene	100	86.9		ug/L		87	42 - 115	5	35
Benzo[a]pyrene	100	77.9		ug/L		78	41 - 117	2	35
Benzo[b]fluoranthene	100	76.7		ug/L		77	36 - 113	2	35

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-563925/3-A

Matrix: Water

Analysis Batch: 564233

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 563925

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[g,h,i]perylene	100	85.4		ug/L		85	37 - 115	6	35
Benzo[k]fluoranthene	100	76.5		ug/L		77	42 - 122	6	35
Benzoic acid	100	98.9		ug/L		99	15 - 121	6	35
Benzyl alcohol	100	66.3		ug/L		66	39 - 106	7	35
bis (2-chloroisopropyl) ether	100	59.6		ug/L		60	38 - 104	4	35
Bis(2-chloroethoxy)methane	100	73.7		ug/L		74	47 - 104	4	35
Bis(2-chloroethyl)ether	100	70.2		ug/L		70	42 - 99	3	35
Bis(2-ethylhexyl) phthalate	100	78.7		ug/L		79	43 - 124	4	35
Butyl benzyl phthalate	100	82.5		ug/L		83	44 - 122	6	35
Chrysene	100	85.4		ug/L		85	42 - 118	5	35
Dibenz(a,h)anthracene	100	83.6		ug/L		84	40 - 114	4	35
Dibenzofuran	100	77.4		ug/L		77	37 - 113	6	35
Diethyl phthalate	100	77.9		ug/L		78	51 - 120	6	35
Dimethyl phthalate	100	82.1		ug/L		82	49 - 113	3	35
Di-n-butyl phthalate	100	82.5		ug/L		83	47 - 125	4	35
Di-n-octyl phthalate	100	83.6		ug/L		84	42 - 125	6	35
Fluoranthene	100	89.0		ug/L		89	44 - 119	2	35
Fluorene	100	76.9		ug/L		77	39 - 116	4	35
Hexachlorobenzene	100	87.7		ug/L		88	43 - 112	4	35
Hexachlorobutadiene	100	62.0		ug/L		62	14 - 77	13	35
Hexachlorocyclopentadiene	100	65.1 *		ug/L		65	10 - 77	39	35
Hexachloroethane	100	50.0		ug/L		50	13 - 75	14	35
Indeno[1,2,3-cd]pyrene	100	86.6		ug/L		87	35 - 116	5	35
Isophorone	100	74.2		ug/L		74	48 - 107	5	35
Naphthalene	100	71.9		ug/L		72	33 - 95	8	35
Nitrobenzene	100	72.2		ug/L		72	42 - 99	5	35
N-Nitrosodimethylamine	100	65.4		ug/L		65	35 - 96	3	35
N-Nitrosodi-n-propylamine	100	70.5		ug/L		71	44 - 111	2	35
N-Nitrosodiphenylamine	100	79.3		ug/L		79	46 - 116	4	35
Pentachlorophenol	200	166		ug/L		83	26 - 136	9	35
Phenanthrene	100	80.9		ug/L		81	43 - 120	5	35
Phenol	100	80.0		ug/L		80	25 - 99	1	35
Pyrene	100	87.3		ug/L		87	43 - 119	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	92		40 - 120
2-Fluorobiphenyl	72		50 - 120
2-Fluorophenol (Surr)	68		30 - 120
Nitrobenzene-d5 (Surr)	72		45 - 120
Phenol-d6 (Surr)	71		35 - 120
Terphenyl-d14 (Surr)	87		10 - 150

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8270C SIM - 1,4 Dioxane by SIM

Lab Sample ID: MB 440-563923/1-A

Matrix: Water

Analysis Batch: 564123

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 563923

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	ug/L		08/18/19 12:18	08/19/19 16:08	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	62		27 - 120			08/18/19 12:18	08/19/19 16:08	1

Lab Sample ID: LCS 440-563923/3-A

Matrix: Water

Analysis Batch: 564123

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 563923

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	
1,4-Dioxane		2.00	1.52		ug/L		76	36 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
1,4-Dioxane-d8 (Surr)	74		27 - 120					

Lab Sample ID: 440-248220-E-1-A MS

Matrix: Water

Analysis Batch: 564123

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 563923

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec.	
1,4-Dioxane	ND		1.95	1.62		ug/L		83	10 - 150
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	76		27 - 120						

Lab Sample ID: 440-248220-E-1-B MSD

Matrix: Water

Analysis Batch: 564123

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 563923

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD
1,4-Dioxane	ND		1.99	1.54		ug/L		77	10 - 150
Surrogate	MSD %Recovery	MSD Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	70		27 - 120						

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-564674/1

Matrix: Water

Analysis Batch: 564674

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	mg/L			08/21/19 16:32	1

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QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 440-564674/2

Matrix: Water

Analysis Batch: 564674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD
Total Suspended Solids	1000	994		mg/L	99		85 - 115	

Lab Sample ID: 440-248181-A-1 DU

Matrix: Water

Analysis Batch: 564674

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Suspended Solids	13		13.0		mg/L		0	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 440-248075-A-1 DU

Matrix: Water

Analysis Batch: 564053

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	8.3		8.3		SU		0.1	2

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-564127/1-A

Matrix: Water

Analysis Batch: 564157

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 564127

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Dissolved	ND		0.050	mg/L		08/19/19 15:50	08/19/19 16:48	1

Lab Sample ID: LCS 440-564127/2-A

Matrix: Water

Analysis Batch: 564157

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 564127

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD
Sulfide, Dissolved	0.500	0.536		mg/L	107		80 - 120	

Lab Sample ID: LCSD 440-564127/3-A

Matrix: Water

Analysis Batch: 564157

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 564127

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD
Sulfide, Dissolved	0.500	0.519		mg/L	104		80 - 120	3 20

Lab Sample ID: 440-248179-2 MS

Matrix: Water

Analysis Batch: 564157

Client Sample ID: Grab_20190816
Prep Type: Dissolved
Prep Batch: 564127

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Dissolved	ND		0.500	0.504		mg/L	101		70 - 130

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QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: SM 4500 S2 D - Sulfide, Total (Continued)

Lab Sample ID: 440-248179-2 MSD

Matrix: Water

Analysis Batch: 564157

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide, Dissolved	ND		0.500	0.488		mg/L		98	70 - 130	3	30

Method: SM 5220D - COD

Lab Sample ID: MB 440-564644/3

Matrix: Water

Analysis Batch: 564644

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	mg/L			08/21/19 14:35	1

Lab Sample ID: LCS 440-564644/4

Matrix: Water

Analysis Batch: 564644

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	200	200		mg/L		100	90 - 110

Lab Sample ID: 440-247701-J-1 MS

Matrix: Water

Analysis Batch: 564644

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	ND		200	192		mg/L		96	70 - 120

Lab Sample ID: 440-247701-J-1 MSD

Matrix: Water

Analysis Batch: 564644

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	ND		200	192		mg/L		96	70 - 120	0	15

1 Job ID: 440-248179-1

2 SDG: Whittier, CA

3 Client Sample ID: Grab_20190816

4 Prep Type: Dissolved

5 Prep Batch: 564127

6 RPD

7 %Rec.

8 Limits

9 RPD

10 Limit

11 Client Sample ID: Method Blank

12 Prep Type: Total/NA

13 Client Sample ID: Lab Control Sample

14 Prep Type: Total/NA

15 Client Sample ID: Matrix Spike

16 Prep Type: Total/NA

17 Client Sample ID: Matrix Spike Duplicate

18 Prep Type: Total/NA

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

GC/MS VOA

Analysis Batch: 563964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	8260B	
MB 440-563964/4	Method Blank	Total/NA	Water	8260B	
LCS 440-563964/26	Lab Control Sample	Total/NA	Water	8260B	
440-248179-2 MS	Grab_20190816	Total/NA	Water	8260B	
440-248179-2 MSD	Grab_20190816	Total/NA	Water	8260B	

Analysis Batch: 564140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	8260B	
MB 440-564140/4	Method Blank	Total/NA	Water	8260B	
LCS 440-564140/1003	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-564140/5	Lab Control Sample	Total/NA	Water	8260B	
440-248319-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-248319-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 565352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2 - RA	Grab_20190816	Total/NA	Water	8260B	
MB 440-565352/4	Method Blank	Total/NA	Water	8260B	
LCS 440-565352/1003	Lab Control Sample	Total/NA	Water	8260B	
440-248662-A-3 MS	Matrix Spike	Total/NA	Water	8260B	
440-248662-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 563923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	3520C	
MB 440-563923/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-563923/3-A	Lab Control Sample	Total/NA	Water	3520C	
440-248220-E-1-A MS	Matrix Spike	Total/NA	Water	3520C	
440-248220-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

Prep Batch: 563925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	3520C	
MB 440-563925/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-563925/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-563925/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 564123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	8270C SIM	
MB 440-563923/1-A	Method Blank	Total/NA	Water	8270C SIM	
LCS 440-563923/3-A	Lab Control Sample	Total/NA	Water	8270C SIM	
440-248220-E-1-A MS	Matrix Spike	Total/NA	Water	8270C SIM	
440-248220-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270C SIM	

Analysis Batch: 564233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-563925/1-A	Method Blank	Total/NA	Water	8270C	563925

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QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

GC/MS Semi VOA (Continued)

Analysis Batch: 564233 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-563925/2-A	Lab Control Sample	Total/NA	Water	8270C	563925
LCSD 440-563925/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	563925

Analysis Batch: 564438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	8270C	563925

General Chemistry

Analysis Batch: 564053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	SM 4500 H+ B	
440-248075-A-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Prep Batch: 564127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Dissolved	Water	SM 4500 S2 B	
MB 440-564127/1-A	Method Blank	Dissolved	Water	SM 4500 S2 B	
LCS 440-564127/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 B	
LCSD 440-564127/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 B	
440-248179-2 MS	Grab_20190816	Dissolved	Water	SM 4500 S2 B	
440-248179-2 MSD	Grab_20190816	Dissolved	Water	SM 4500 S2 B	

Analysis Batch: 564157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Dissolved	Water	SM 4500 S2 D	564127
MB 440-564127/1-A	Method Blank	Dissolved	Water	SM 4500 S2 D	564127
LCS 440-564127/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 D	564127
LCSD 440-564127/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 D	564127
440-248179-2 MS	Grab_20190816	Dissolved	Water	SM 4500 S2 D	564127
440-248179-2 MSD	Grab_20190816	Dissolved	Water	SM 4500 S2 D	564127

Analysis Batch: 564644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-1	Composite_20190816	Total/NA	Water	SM 5220D	
MB 440-564644/3	Method Blank	Total/NA	Water	SM 5220D	
LCS 440-564644/4	Lab Control Sample	Total/NA	Water	SM 5220D	
440-247701-J-1 MS	Matrix Spike	Total/NA	Water	SM 5220D	
440-247701-J-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5220D	

Analysis Batch: 564674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-1	Composite_20190816	Total/NA	Water	SM 2540D	
MB 440-564674/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-564674/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-248181-A-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Field Service / Mobile Lab

Analysis Batch: 563942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	Field Sampling	

Eurofins TestAmerica, Irvine

Definitions/Glossary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation

These commonly used abbreviations may or may not be present in this report.

□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1

SDG: Whittier, CA

Laboratory: Eurofins TestAmerica, Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State Program	CA ELAP 2706	06-30-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8260B		Water	Total Volatile Organic Compounds
8270C	3520C	Water	2-Methylphenol
8270C	3520C	Water	3-Methylphenol + 4-Methylphenol
8270C	3520C	Water	4-Chloroaniline
8270C	3520C	Water	Benzidine
8270C SIM	3520C	Water	1,4-Dioxane
Field Sampling		Water	Field pH

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-248179-1

SDG Number: Whittier, CA

Login Number: 248179

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True		6
The cooler's custody seal, if present, is intact.	N/A	Not present	7
Sample custody seals, if present, are intact.	N/A	Not Present	8
The cooler or samples do not appear to have been compromised or tampered with.	True		9
Samples were received on ice.	True		10
Cooler Temperature is acceptable.	True		11
Cooler Temperature is recorded.	True		12
COC is present.	True		13
COC is filled out in ink and legible.	True		14
COC is filled out with all pertinent information.	True		15
Is the Field Sampler's name present on COC?	True		
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		



ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

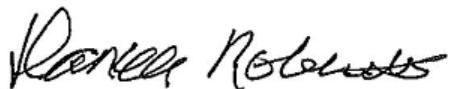
Laboratory Job ID: 440-248231-1

Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chem.-2019 Semi-Ann. GWM

For:

Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson



Authorized for release by:
8/30/2019 2:34:49 PM

Danielle Roberts, Senior Project Manager
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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-248231-1	OC_GW_PZ-9_20190816N	Water	08/16/19 13:08	08/16/19 16:05	
440-248231-2	OC_GW_OW-11_20190816	Water	08/16/19 09:32	08/16/19 16:05	

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Eurofins TestAmerica, Irvine

Case Narrative

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1
SDG: Omega Chemical

Job ID: 440-248231-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-248231-1

Comments

No additional comments.

Receipt

The samples were received on 8/16/2019 4:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.7° C.

Receipt Exceptions

OC_GW_PZ9_20190816N (440-248231-1). Did not receive 1 liter unpreserved amber, received only voa vials.

GC/MS VOA

Method(s) 8260B: Surrogate recovery was outside acceptance limits for the following matrix spike (MS) sample: (440-248100-A-6 MS). The MSD and parent sample's surrogate recovery was within limits. The MS sample has been qualified and reported. Matrix interference is suspected.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-563962 recovered above the upper control limit for Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: OC_GW_PZ9_20190816N (440-248231-1), OC_GW_OW-11_20190816 (440-248231-2) and (CCVIS 440-563962/2).

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 440-563962 recovered outside control limits for the following analyte: Trichloroethene. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 440-563962 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS) was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Client Sample ID: OC_GW_PZ-9_20190816N

Lab Sample ID: 440-248231-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	16		10	10	ug/L	1		8260B	Total/NA

Client Sample ID: OC_GW_OW-11_20190816

Lab Sample ID: 440-248231-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	30		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	27		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	0.41	J	1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	8.6		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene - DL	160		5.0	1.3	ug/L	5		8260B	Total/NA
Trichloroethene - RA	37		1.0	0.25	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_PZ-9_20190816N

Lab Sample ID: 440-248231-1

Matrix: Water

Date Collected: 08/16/19 13:08
 Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/19/19 15:20	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/19/19 15:20	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/19/19 15:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/19/19 15:20	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/19/19 15:20	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/19/19 15:20	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/19/19 15:20	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/19/19 15:20	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/19/19 15:20	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/19/19 15:20	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/19/19 15:20	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/19/19 15:20	1
1,2-Dichloropropene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/19/19 15:20	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/19/19 15:20	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Acetone	16		10	10	ug/L			08/19/19 15:20	1
Benzene	ND		0.50	0.25	ug/L			08/19/19 15:20	1
Bromobenzene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Bromoform	ND		1.0	0.40	ug/L			08/19/19 15:20	1
Bromomethane	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/19/19 15:20	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Chloroethane	ND		1.0	0.40	ug/L			08/19/19 15:20	1
Chloroform	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Chloromethane	ND		1.0	0.25	ug/L			08/19/19 15:20	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/19/19 15:20	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Dibromomethane	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/19/19 15:20	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/19/19 15:20	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/19/19 15:20	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Naphthalene	ND		1.0	0.40	ug/L			08/19/19 15:20	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/19/19 15:20	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_PZ-9_20190816N

Lab Sample ID: 440-248231-1

Matrix: Water

Date Collected: 08/16/19 13:08
 Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
o-Xylene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Styrene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Toluene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 15:20	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/19/19 15:20	1
Trichloroethene	ND *		1.0	0.25	ug/L			08/19/19 15:20	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/19/19 15:20	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/19/19 15:20	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	3.9	T J	ug/L		3.02			08/19/19 15:20	1
Unknown	28	T J	ug/L		14.45			08/19/19 15:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		70 - 130					08/19/19 15:20	1
4-Bromofluorobenzene (Surr)	82		80 - 120					08/19/19 15:20	1
Dibromofluoromethane (Surr)	101		76 - 132					08/19/19 15:20	1
Toluene-d8 (Surr)	106		80 - 128					08/19/19 15:20	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/20/19 12:32	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	77	T J	ug/L		2.25			08/20/19 12:32	1
Unknown	2.9	T J	ug/L		6.16			08/20/19 12:32	1
Unknown	26	T J	ug/L		14.45			08/20/19 12:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	75		70 - 130					08/20/19 12:32	1
4-Bromofluorobenzene (Surr)	84		80 - 120					08/20/19 12:32	1
Dibromofluoromethane (Surr)	89		76 - 132					08/20/19 12:32	1
Toluene-d8 (Surr)	91		80 - 128					08/20/19 12:32	1

Client Sample ID: OC_GW_OW-11_20190816

Lab Sample ID: 440-248231-2

Matrix: Water

Date Collected: 08/16/19 09:32
 Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/19/19 15:47	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/19/19 15:47	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/19/19 15:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	30		5.0	0.50	ug/L			08/19/19 15:47	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/19/19 15:47	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-11_20190816

Lab Sample ID: 440-248231-2

Matrix: Water

Date Collected: 08/16/19 09:32

Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/19/19 15:47	1
1,1-Dichloroethene	27		1.0	0.25	ug/L			08/19/19 15:47	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/19/19 15:47	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/19/19 15:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/19/19 15:47	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/19/19 15:47	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/19/19 15:47	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/19/19 15:47	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/19/19 15:47	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/19/19 15:47	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/19/19 15:47	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
Acetone	ND		10	10	ug/L			08/19/19 15:47	1
Benzene	ND		0.50	0.25	ug/L			08/19/19 15:47	1
Bromobenzene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/19/19 15:47	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/19/19 15:47	1
Bromoform	ND		1.0	0.40	ug/L			08/19/19 15:47	1
Bromomethane	ND		1.0	0.25	ug/L			08/19/19 15:47	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/19/19 15:47	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
Chloroethane	ND		1.0	0.40	ug/L			08/19/19 15:47	1
Chloroform	0.41 J		1.0	0.25	ug/L			08/19/19 15:47	1
Chloromethane	ND		1.0	0.25	ug/L			08/19/19 15:47	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/19/19 15:47	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/19/19 15:47	1
Dibromomethane	ND		1.0	0.25	ug/L			08/19/19 15:47	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/19/19 15:47	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/19/19 15:47	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/19/19 15:47	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/19/19 15:47	1
Naphthalene	ND		1.0	0.40	ug/L			08/19/19 15:47	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/19/19 15:47	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
o-Xylene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
Styrene	ND		1.0	0.25	ug/L			08/19/19 15:47	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-11_20190816

Lab Sample ID: 440-248231-2

Matrix: Water

Date Collected: 08/16/19 09:32

Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
Toluene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 15:47	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/19/19 15:47	1
Trichlorofluoromethane	8.6		1.0	0.25	ug/L			08/19/19 15:47	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/19/19 15:47	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/19/19 15:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	70		70 - 130					08/19/19 15:47	1
4-Bromofluorobenzene (Surr)	94		80 - 120					08/19/19 15:47	1
Dibromofluoromethane (Surr)	90		76 - 132					08/19/19 15:47	1
Toluene-d8 (Surr)	102		80 - 128					08/19/19 15:47	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	160		5.0	1.3	ug/L			08/19/19 16:15	5
Unknown	1300	T J	ug/L		2.25			08/19/19 16:15	5
Unknown	24	T J	ug/L		2.97			08/19/19 16:15	5
Unknown	150	T J	ug/L		16.85			08/19/19 16:15	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 130					08/19/19 16:15	5
4-Bromofluorobenzene (Surr)	94		80 - 120					08/19/19 16:15	5
Dibromofluoromethane (Surr)	118		76 - 132					08/19/19 16:15	5
Toluene-d8 (Surr)	105		80 - 128					08/19/19 16:15	5

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/20/19 12:59	1
Trichloroethene	37		1.0	0.25	ug/L			08/20/19 12:59	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	460	T J	ug/L		2.26			08/20/19 12:59	1
Unknown	3.4	T J	ug/L		2.96			08/20/19 12:59	1
Unknown	27	T J	ug/L		14.45			08/20/19 12:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		70 - 130					08/20/19 12:59	1
4-Bromofluorobenzene (Surr)	85		80 - 120					08/20/19 12:59	1
Dibromofluoromethane (Surr)	89		76 - 132					08/20/19 12:59	1
Toluene-d8 (Surr)	108		80 - 128					08/20/19 12:59	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.53	0.11	ug/L		08/20/19 10:01	08/21/19 10:03	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1
SDG: Omega Chemical

Client Sample ID: OC_GW_OW-11_20190816

Lab Sample ID: 440-248231-2

Matrix: Water

Date Collected: 08/16/19 09:32
Date Received: 08/16/19 16:05

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	60		27 - 120	08/20/19 10:01	08/21/19 10:03	1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-248098-B-1 MS	Matrix Spike	76	95	96	105
440-248098-B-1 MSD	Matrix Spike Duplicate	71	100	92	100
440-248100-A-6 MS	Matrix Spike	101	94	118	78 X
440-248100-A-6 MSD	Matrix Spike Duplicate	97	102	107	98
440-248231-1	OC_GW_PZ-9_20190816N	83	82	101	106
440-248231-1 - RA	OC_GW_PZ-9_20190816N	75	84	89	91
440-248231-2	OC_GW_OW-11_20190816	70	94	90	102
440-248231-2 - DL	OC_GW_OW-11_20190816	99	94	118	105
440-248231-2 - RA	OC_GW_OW-11_20190816	82	85	89	108
LCS 440-563962/5	Lab Control Sample	90	98	115	104
LCS 440-564207/1003	Lab Control Sample	82	96	99	105
LCS 440-564207/5	Lab Control Sample	86	82	103	100
LCSD 440-564207/6	Lab Control Sample Dup	83	90	89	94
MB 440-563962/4	Method Blank	94	106	121	89
MB 440-564207/4	Method Blank	81	108	80	104

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromoform (Surr)

TOL = Toluene-d8 (Surr)

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DXE (27-120)			
440-248231-2	OC_GW_OW-11_20190816	60			
LCS 440-564280/2-A	Lab Control Sample	57			
LCSD 440-564280/3-A	Lab Control Sample Dup	51			
MB 440-564280/1-A	Method Blank	67			

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Client Sample ID: OC_GW_PZ-9_20190816N

Lab Sample ID: 440-248231-1

Matrix: Water

Date Collected: 08/16/19 13:08

Date Received: 08/16/19 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563962	08/19/19 15:20	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	564207	08/20/19 12:32	JB	TAL IRV

Client Sample ID: OC_GW_OW-11_20190816

Lab Sample ID: 440-248231-2

Matrix: Water

Date Collected: 08/16/19 09:32

Date Received: 08/16/19 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	563962	08/19/19 15:47	RM	TAL IRV
Total/NA	Analysis	8260B	DL	5	10 mL	10 mL	563962	08/19/19 16:15	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	564207	08/20/19 12:59	JB	TAL IRV
Total/NA	Prep	3520C			945 mL	1.0 mL	564280	08/20/19 10:01	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564521	08/21/19 10:03	YCL	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-563962/4

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/19/19 09:51	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/19/19 09:51	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/19/19 09:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/19/19 09:51	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/19/19 09:51	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/19/19 09:51	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Acetone	ND		10	10	ug/L			08/19/19 09:51	1
Benzene	ND		0.50	0.25	ug/L			08/19/19 09:51	1
Bromobenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Bromoform	ND		1.0	0.40	ug/L			08/19/19 09:51	1
Bromomethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/19/19 09:51	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Chloroethane	ND		1.0	0.40	ug/L			08/19/19 09:51	1
Chloroform	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Chloromethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/19/19 09:51	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Dibromomethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/19/19 09:51	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/19/19 09:51	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/19/19 09:51	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Naphthalene	ND		1.0	0.40	ug/L			08/19/19 09:51	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-563962/4

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.40	ug/L			08/19/19 09:51	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
o-Xylene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Styrene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Toluene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/19/19 09:51	1
Trichloroethene	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/19/19 09:51	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/19/19 09:51	1

Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
	None		ug/L						
Surrogate									
1,2-Dichloroethane-d4 (Surr)	94		70 - 130				Prepared	08/19/19 09:51	1
4-Bromofluorobenzene (Surr)	106		80 - 120					08/19/19 09:51	1
Dibromofluoromethane (Surr)	121		76 - 132					08/19/19 09:51	1
Toluene-d8 (Surr)	89		80 - 128					08/19/19 09:51	1

Lab Sample ID: LCS 440-563962/5

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	10.0	10.2		ug/L		102	60 - 141
1,1,1-Trichloroethane	10.0	9.30		ug/L		93	70 - 130
1,1,2,2-Tetrachloroethane	10.0	11.2		ug/L		112	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.96		ug/L		100	60 - 140
1,1,2-Trichloroethane	10.0	11.5		ug/L		115	70 - 130
1,1-Dichloroethane	10.0	10.5		ug/L		105	64 - 130
1,1-Dichloroethene	10.0	11.6		ug/L		116	70 - 130
1,1-Dichloropropene	10.0	9.23		ug/L		92	70 - 130
1,2,3-Trichlorobenzene	10.0	13.6		ug/L		136	60 - 140
1,2,3-Trichloropropane	10.0	10.8		ug/L		108	63 - 130
1,2,4-Trichlorobenzene	10.0	13.3		ug/L		133	60 - 140
1,2,4-Trimethylbenzene	10.0	9.29		ug/L		93	70 - 135
1,2-Dibromo-3-Chloropropane	10.0	10.6		ug/L		106	52 - 140
1,2-Dibromoethane (EDB)	10.0	9.54		ug/L		95	70 - 130
1,2-Dichlorobenzene	10.0	11.1		ug/L		111	70 - 130
1,2-Dichloroethane	10.0	8.14		ug/L		81	57 - 138
1,2-Dichloropropane	10.0	12.3		ug/L		123	67 - 130
1,3,5-Trimethylbenzene	10.0	8.97		ug/L		90	70 - 136

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-563962/5

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	10.0	9.66		ug/L	97	70 - 130	
1,3-Dichloropropane	10.0	10.9		ug/L	109	70 - 130	
1,4-Dichlorobenzene	10.0	9.20		ug/L	92	70 - 130	
2,2-Dichloropropane	10.0	10.2		ug/L	102	68 - 141	
2-Chlorotoluene	10.0	8.94		ug/L	89	70 - 130	
4-Chlorotoluene	10.0	8.86		ug/L	89	70 - 130	
Acetone	50.0	47.0		ug/L	94	10 - 150	
Benzene	10.0	9.68		ug/L	97	68 - 130	
Bromobenzene	10.0	12.4		ug/L	124	70 - 130	
Bromochloromethane	10.0	12.8		ug/L	128	70 - 130	
Bromodichloromethane	10.0	12.6		ug/L	126	70 - 132	
Bromoform	10.0	12.0		ug/L	120	60 - 148	
Bromomethane	10.0	11.6		ug/L	116	64 - 139	
Carbon tetrachloride	10.0	9.14		ug/L	91	60 - 150	
Chlorobenzene	10.0	10.3		ug/L	103	70 - 130	
Chloroethane	10.0	9.14		ug/L	91	64 - 135	
Chloroform	10.0	11.4		ug/L	114	70 - 130	
Chloromethane	10.0	8.04		ug/L	80	47 - 140	
cis-1,2-Dichloroethene	10.0	13.1		ug/L	131	70 - 133	
cis-1,3-Dichloropropene	10.0	11.5		ug/L	115	70 - 133	
Dibromochloromethane	10.0	10.1		ug/L	101	69 - 145	
Dibromomethane	10.0	11.6		ug/L	116	70 - 130	
Dichlorodifluoromethane	10.0	7.81		ug/L	78	29 - 150	
Ethylbenzene	10.0	11.1		ug/L	111	70 - 130	
Hexachlorobutadiene	10.0	13.9		ug/L	139	10 - 150	
Isopropylbenzene	10.0	9.34		ug/L	93	70 - 136	
m,p-Xylene	10.0	10.6		ug/L	106	70 - 130	
Methylene Chloride	10.0	11.2		ug/L	112	52 - 130	
Methyl-t-Butyl Ether (MTBE)	10.0	12.0		ug/L	120	63 - 131	
Naphthalene	10.0	13.2		ug/L	132	60 - 140	
n-Butylbenzene	10.0	11.9		ug/L	119	65 - 150	
N-Propylbenzene	10.0	8.97		ug/L	90	67 - 139	
o-Xylene	10.0	10.7		ug/L	107	70 - 130	
p-Isopropyltoluene	10.0	9.01		ug/L	90	70 - 132	
sec-Butylbenzene	10.0	9.11		ug/L	91	70 - 138	
Styrene	10.0	11.2		ug/L	112	70 - 134	
tert-Butylbenzene	10.0	8.88		ug/L	89	70 - 130	
Tetrachloroethene	10.0	8.75		ug/L	88	70 - 130	
Toluene	10.0	10.2		ug/L	102	70 - 130	
trans-1,2-Dichloroethene	10.0	11.4		ug/L	114	70 - 130	
trans-1,3-Dichloropropene	10.0	11.1		ug/L	111	70 - 132	
Trichloroethene	10.0	13.4 *		ug/L	134	70 - 130	
Trichlorofluoromethane	10.0	9.16		ug/L	92	60 - 150	
Vinyl chloride	10.0	8.42		ug/L	84	59 - 133	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		70 - 130
4-Bromofluorobenzene (Surr)	98		80 - 120

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-563962/5

Matrix: Water

Analysis Batch: 563962

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
Dibromofluoromethane (Surr)	115				76 - 132
Toluene-d8 (Surr)	104				80 - 128

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Lab Sample ID: 440-248100-A-6 MS

Matrix: Water

Analysis Batch: 563962

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		10.0	9.91		ug/L	99	60 - 149	
1,1,1-Trichloroethane	ND		10.0	11.4		ug/L	114	70 - 130	
1,1,2,2-Tetrachloroethane	ND	F1	10.0	13.8	F1	ug/L	138	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	16	F1	10.0	33.3	F1	ug/L	177	60 - 140	
1,1,2-Trichloroethane	ND	F2	10.0	8.61		ug/L	86	70 - 130	
1,1-Dichloroethane	ND		10.0	11.6		ug/L	116	65 - 130	
1,1-Dichloroethene	15	F1 F2	10.0	31.8	F1	ug/L	173	70 - 130	
1,1-Dichloropropene	ND		10.0	11.9		ug/L	119	64 - 130	
1,2,3-Trichlorobenzene	ND		10.0	11.7		ug/L	117	60 - 140	
1,2,3-Trichloropropane	ND		10.0	12.2		ug/L	122	60 - 130	
1,2,4-Trichlorobenzene	ND		10.0	11.6		ug/L	116	60 - 140	
1,2,4-Trimethylbenzene	ND		10.0	10.2		ug/L	102	70 - 130	
1,2-Dibromo-3-Chloropropane	ND		10.0	10.5		ug/L	105	48 - 140	
1,2-Dibromoethane (EDB)	ND		10.0	9.08		ug/L	91	70 - 131	
1,2-Dichlorobenzene	ND		10.0	12.1		ug/L	121	70 - 130	
1,2-Dichloroethane	ND		10.0	9.19		ug/L	92	56 - 146	
1,2-Dichloropropane	ND		10.0	10.3		ug/L	103	69 - 130	
1,3,5-Trimethylbenzene	ND		10.0	10.1		ug/L	101	70 - 130	
1,3-Dichlorobenzene	ND		10.0	10.5		ug/L	105	70 - 130	
1,3-Dichloropropane	ND		10.0	8.57		ug/L	86	70 - 130	
1,4-Dichlorobenzene	ND		10.0	10.3		ug/L	103	70 - 130	
2,2-Dichloropropane	ND		10.0	11.5		ug/L	115	69 - 138	
2-Chlorotoluene	ND		10.0	9.79		ug/L	98	70 - 130	
4-Chlorotoluene	ND		10.0	9.83		ug/L	98	70 - 130	
Acetone	ND		50.0	48.4		ug/L	97	10 - 150	
Benzene	ND		10.0	10.6		ug/L	106	66 - 130	
Bromobenzene	ND		10.0	11.0		ug/L	110	70 - 130	
Bromochloromethane	ND		10.0	12.7		ug/L	127	70 - 130	
Bromodichloromethane	ND		10.0	10.7		ug/L	107	70 - 138	
Bromoform	ND		10.0	9.95		ug/L	100	59 - 150	
Bromomethane	ND	F1	10.0	17.2	F1	ug/L	172	62 - 131	
Carbon tetrachloride	ND		10.0	10.9		ug/L	109	60 - 150	
Chlorobenzene	ND		10.0	9.77		ug/L	98	70 - 130	
Chloroethane	ND	F1	10.0	13.8	F1	ug/L	138	68 - 130	
Chloroform	ND		10.0	12.4		ug/L	124	70 - 130	
Chloromethane	ND		10.0	12.4		ug/L	124	39 - 144	
cis-1,2-Dichloroethene	ND		10.0	12.5		ug/L	125	70 - 130	
cis-1,3-Dichloropropene	ND		10.0	9.92		ug/L	99	70 - 133	
Dibromochloromethane	ND		10.0	8.57		ug/L	86	70 - 148	
Dibromomethane	ND		10.0	10.5		ug/L	105	70 - 130	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248100-A-6 MS

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dichlorodifluoromethane	ND		10.0	11.7		ug/L		117	25 - 142
Ethylbenzene	ND		10.0	10.4		ug/L		104	70 - 130
Hexachlorobutadiene	ND		10.0	12.7		ug/L		127	10 - 150
Isopropylbenzene	ND		10.0	8.55		ug/L		85	70 - 132
m,p-Xylene	ND		10.0	9.65		ug/L		96	70 - 133
Methylene Chloride	ND	F2	10.0	12.9		ug/L		129	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		10.0	11.7		ug/L		117	70 - 130
Naphthalene	ND		10.0	10.4		ug/L		104	60 - 140
n-Butylbenzene	ND	F2	10.0	13.7		ug/L		137	61 - 149
N-Propylbenzene	ND		10.0	10.1		ug/L		101	66 - 135
o-Xylene	ND		10.0	10.5		ug/L		105	70 - 133
p-Isopropyltoluene	ND		10.0	10.1		ug/L		101	70 - 130
sec-Butylbenzene	ND		10.0	10.5		ug/L		105	67 - 134
Styrene	ND		10.0	9.94		ug/L		99	29 - 150
tert-Butylbenzene	ND		10.0	10.2		ug/L		102	70 - 130
Tetrachloroethene	56		10.0	53.6	4	ug/L		-28	70 - 137
Toluene	ND		10.0	8.54		ug/L		85	70 - 130
trans-1,2-Dichloroethene	ND		10.0	12.7		ug/L		127	70 - 130
trans-1,3-Dichloropropene	ND		10.0	10.3		ug/L		103	70 - 138
Trichloroethene	29	*	10.0	37.7		ug/L		89	70 - 130
Trichlorofluoromethane	5.4	F2	10.0	19.0		ug/L		137	60 - 150
Vinyl chloride	ND		10.0	13.5		ug/L		135	50 - 137
<hr/>									
Surrogate	MS %Recovery	MS Qualifier	MS Limits						
1,2-Dichloroethane-d4 (Surr)	101		70 - 130						
4-Bromofluorobenzene (Surr)	94		80 - 120						
Dibromofluoromethane (Surr)	118		76 - 132						
Toluene-d8 (Surr)	78	X	80 - 128						

Lab Sample ID: 440-248100-A-6 MSD

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		10.0	9.84		ug/L		98	60 - 149	1	20
1,1,1-Trichloroethane	ND		10.0	9.86		ug/L		99	70 - 130	15	20
1,1,2,2-Tetrachloroethane	ND	F1	10.0	10.4		ug/L		104	63 - 130	28	30
1,1,2-Trichloro-1,2,2-trifluoroethane	16	F1	10.0	28.3		ug/L		127	60 - 140	16	20
1,1,2-Trichloroethane	ND	F2	10.0	11.3	F2	ug/L		113	70 - 130	27	25
1,1-Dichloroethane	ND		10.0	9.82		ug/L		98	65 - 130	17	20
1,1-Dichloroethene	15	F1 F2	10.0	23.8	F2	ug/L		92	70 - 130	29	20
1,1-Dichloropropene	ND		10.0	10.8		ug/L		108	64 - 130	10	20
1,2,3-Trichlorobenzene	ND		10.0	11.7		ug/L		117	60 - 140	0	20
1,2,3-Trichloropropane	ND		10.0	9.91		ug/L		99	60 - 130	21	30
1,2,4-Trichlorobenzene	ND		10.0	13.8		ug/L		138	60 - 140	17	20
1,2,4-Trimethylbenzene	ND		10.0	9.21		ug/L		92	70 - 130	11	25
1,2-Dibromo-3-Chloropropane	ND		10.0	10.6		ug/L		106	48 - 140	1	30
1,2-Dibromoethane (EDB)	ND		10.0	9.31		ug/L		93	70 - 131	2	25

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248100-A-6 MSD

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	Limits	RPD	RPD Limit
1,2-Dichlorobenzene	ND		10.0	9.94		ug/L	99	70 - 130	20	20	
1,2-Dichloroethane	ND		10.0	8.69		ug/L	87	56 - 146	6	20	
1,2-Dichloropropane	ND		10.0	9.60		ug/L	96	69 - 130	7	20	
1,3,5-Trimethylbenzene	ND		10.0	9.30		ug/L	93	70 - 130	8	20	
1,3-Dichlorobenzene	ND		10.0	9.86		ug/L	99	70 - 130	7	20	
1,3-Dichloropropane	ND		10.0	9.16		ug/L	92	70 - 130	7	25	
1,4-Dichlorobenzene	ND		10.0	9.48		ug/L	95	70 - 130	8	20	
2,2-Dichloropropane	ND		10.0	10.4		ug/L	104	69 - 138	10	25	
2-Chlorotoluene	ND		10.0	10.6		ug/L	106	70 - 130	8	20	
4-Chlorotoluene	ND		10.0	9.82		ug/L	98	70 - 130	0	20	
Acetone	ND		50.0	42.5		ug/L	85	10 - 150	13	35	
Benzene	ND		10.0	9.74		ug/L	97	66 - 130	8	20	
Bromobenzene	ND		10.0	12.0		ug/L	120	70 - 130	9	20	
Bromochloromethane	ND		10.0	11.9		ug/L	119	70 - 130	7	25	
Bromodichloromethane	ND		10.0	10.9		ug/L	109	70 - 138	1	20	
Bromoform	ND		10.0	9.97		ug/L	100	59 - 150	0	25	
Bromomethane	ND F1		10.0	17.1	F1	ug/L	171	62 - 131	1	25	
Carbon tetrachloride	ND		10.0	9.28		ug/L	93	60 - 150	16	25	
Chlorobenzene	ND		10.0	9.51		ug/L	95	70 - 130	3	20	
Chloroethane	ND F1		10.0	12.5		ug/L	125	68 - 130	10	25	
Chloroform	ND		10.0	10.8		ug/L	108	70 - 130	14	20	
Chloromethane	ND		10.0	10.7		ug/L	107	39 - 144	15	25	
cis-1,2-Dichloroethene	ND		10.0	10.2		ug/L	102	70 - 130	20	20	
cis-1,3-Dichloropropene	ND		10.0	11.6		ug/L	116	70 - 133	15	20	
Dibromochloromethane	ND		10.0	9.34		ug/L	93	70 - 148	9	25	
Dibromomethane	ND		10.0	9.33		ug/L	93	70 - 130	12	25	
Dichlorodifluoromethane	ND		10.0	10.5		ug/L	105	25 - 142	11	30	
Ethylbenzene	ND		10.0	8.95		ug/L	89	70 - 130	15	20	
Hexachlorobutadiene	ND		10.0	12.2		ug/L	122	10 - 150	3	20	
Isopropylbenzene	ND		10.0	10.0		ug/L	100	70 - 132	16	20	
m,p-Xylene	ND		10.0	8.84		ug/L	88	70 - 133	9	25	
Methylene Chloride	ND F2		10.0	10.3	F2	ug/L	103	52 - 130	22	20	
Methyl-t-Butyl Ether (MTBE)	ND		10.0	10.7		ug/L	107	70 - 130	8	25	
Naphthalene	ND		10.0	12.1		ug/L	121	60 - 140	15	30	
n-Butylbenzene	ND F2		10.0	9.37	F2	ug/L	94	61 - 149	37	20	
N-Propylbenzene	ND		10.0	11.6		ug/L	116	66 - 135	14	20	
o-Xylene	ND		10.0	9.11		ug/L	91	70 - 133	14	20	
p-Isopropyltoluene	ND		10.0	9.07		ug/L	91	70 - 130	11	20	
sec-Butylbenzene	ND		10.0	8.89		ug/L	89	67 - 134	17	20	
Styrene	ND		10.0	9.02		ug/L	90	29 - 150	10	35	
tert-Butylbenzene	ND		10.0	8.69		ug/L	87	70 - 130	16	20	
Tetrachloroethene	56		10.0	57.3	4	ug/L	9	70 - 137	7	20	
Toluene	ND		10.0	9.01		ug/L	90	70 - 130	5	20	
trans-1,2-Dichloroethene	ND		10.0	11.2		ug/L	112	70 - 130	13	20	
trans-1,3-Dichloropropene	ND		10.0	10.1		ug/L	101	70 - 138	2	25	
Trichloroethene	29 *		10.0	36.1		ug/L	73	70 - 130	4	20	
Trichlorofluoromethane	5.4 F2		10.0	12.9	F2	ug/L	75	60 - 150	38	25	
Vinyl chloride	ND		10.0	10.9		ug/L	109	50 - 137	21	30	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248100-A-6 MSD

Matrix: Water

Analysis Batch: 563962

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	107		76 - 132
Toluene-d8 (Surr)	98		80 - 128

Lab Sample ID: MB 440-564207/4

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol			ND		250	180	ug/L			08/20/19 08:25	1
Trichloroethene			ND		1.0	0.25	ug/L			08/20/19 08:25	1

MB MB

Tentatively Identified Compound	Est. Result	MB	MB	Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound				None		ug/L					08/20/19 08:25	1

MB MB

Surrogate	MB	MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)			81		70 - 130			1
4-Bromofluorobenzene (Surr)			108		80 - 120			1
Dibromofluoromethane (Surr)			80		76 - 132			1
Toluene-d8 (Surr)			104		80 - 128			1

Lab Sample ID: LCS 440-564207/1003

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	LCS	LCS	Spike Added	LCS	LCS	%Rec.
	Result	Qualifier		Result	Qualifier	Limits
Isopropyl alcohol			250	266		106
						49 - 142

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)			82		70 - 130
4-Bromofluorobenzene (Surr)			96		80 - 120
Dibromofluoromethane (Surr)			99		76 - 132
Toluene-d8 (Surr)			105		80 - 128

Lab Sample ID: LCS 440-564207/5

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	LCS	LCS	Spike Added	LCS	LCS	%Rec.
	Result	Qualifier		Result	Qualifier	Limits
Trichloroethene			10.0	10.4		104
						70 - 130

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)			86		70 - 130
4-Bromofluorobenzene (Surr)			82		80 - 120
Dibromofluoromethane (Surr)			103		76 - 132
Toluene-d8 (Surr)			100		80 - 128

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: LCSD 440-564207/6

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	10.0	10.9		ug/L		109	70 - 130	5	20

LCSD LCSD

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		70 - 130
4-Bromofluorobenzene (Surr)	90		80 - 120
Dibromofluoromethane (Surr)	89		76 - 132
Toluene-d8 (Surr)	94		80 - 128

Lab Sample ID: 440-248098-B-1 MS

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS	MS	MS	MS	%Rec.	
				Result	Qualifier	Unit	D	%Rec	Limits
Isopropyl alcohol	ND		250	271		ug/L		108	46 - 142
Trichloroethene	26	F1	10.0	31.1	F1	ug/L		53	70 - 130

MS MS

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	76		70 - 130
4-Bromofluorobenzene (Surr)	95		80 - 120
Dibromofluoromethane (Surr)	96		76 - 132
Toluene-d8 (Surr)	105		80 - 128

Lab Sample ID: 440-248098-B-1 MSD

Matrix: Water

Analysis Batch: 564207

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD	MSD	MSD	MSD	%Rec.	
				Result	Qualifier	Unit	D	%Rec	Limits
Isopropyl alcohol	ND		250	254		ug/L		101	46 - 142
Trichloroethene	26	F1	10.0	30.4	F1	ug/L		46	70 - 130

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	71		70 - 130
4-Bromofluorobenzene (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	92		76 - 132
Toluene-d8 (Surr)	100		80 - 128

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-564280/1-A

Matrix: Water

Analysis Batch: 564521

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 564280

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	0.10	ug/L		08/20/19 10:01	08/21/19 08:58	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	67		27 - 120	08/20/19 10:01	08/21/19 08:58	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 440-564280/2-A

Matrix: Water

Analysis Batch: 564521

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 564280

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	1.19		ug/L	59	36 - 120	
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,4-Dioxane-d8 (Surr)	57		27 - 120				

Lab Sample ID: LCSD 440-564280/3-A

Matrix: Water

Analysis Batch: 564521

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 564280

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	1.08		ug/L	54	36 - 120		10	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	51		27 - 120						

QC Association Summary

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1
 SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 563962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248231-1	OC_GW_PZ-9_20190816N	Total/NA	Water	8260B	
440-248231-2	OC_GW_OW-11_20190816	Total/NA	Water	8260B	
440-248231-2 - DL	OC_GW_OW-11_20190816	Total/NA	Water	8260B	
MB 440-563962/4	Method Blank	Total/NA	Water	8260B	
LCS 440-563962/5	Lab Control Sample	Total/NA	Water	8260B	
440-248100-A-6 MS	Matrix Spike	Total/NA	Water	8260B	
440-248100-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 564207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248231-1 - RA	OC_GW_PZ-9_20190816N	Total/NA	Water	8260B	
440-248231-2 - RA	OC_GW_OW-11_20190816	Total/NA	Water	8260B	
MB 440-564207/4	Method Blank	Total/NA	Water	8260B	
LCS 440-564207/1003	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-564207/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-564207/6	Lab Control Sample Dup	Total/NA	Water	8260B	
440-248098-B-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-248098-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 564280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248231-2	OC_GW_OW-11_20190816	Total/NA	Water	3520C	
MB 440-564280/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-564280/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-564280/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 564521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248231-2	OC_GW_OW-11_20190816	Total/NA	Water	8270C SIM	564280
MB 440-564280/1-A	Method Blank	Total/NA	Water	8270C SIM	564280
LCS 440-564280/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	564280
LCSD 440-564280/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	564280

Definitions/Glossary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1
SDG: Omega Chemical

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation

These commonly used abbreviations may or may not be present in this report.

□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248231-1

SDG: Omega Chemical

Laboratory: Eurofins TestAmerica, Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State Program	CA ELAP 2706	06-30-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

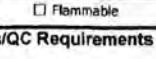
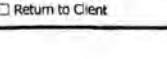
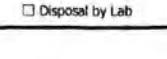
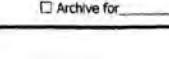
Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614
phone 949.261.1022 fax

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: DW NPDES RCRA Other:

Client Contact		Project Manager: Trent Henderson			Site Contact: Khalid Azhar		Date: 8/16/19		COC No:		
De Maximis - Jaime Dinello 1322 Scott St., Suite 104 San Diego, CA 92106 (562) 756-8149		Tel/Fax: (949) 453-1045 / (949) 453-1047			Lab Contact: Danielle Roberts		Carrier:		1 of 1 COCs		
		Analysis Turnaround Time							Sampler:		
		<input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below <u>STD</u> <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day							For Lab Use Only:		
Project Name: Omega Chem. - 2019 Semi-Ann. GWM Feb Site: Omega Chemical P O #: 3139G/E742									Walk-in Client: Lab Sampling:		
									Job / SDG No.:		
									Sample Specific Notes:		
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform NS/MSD (Y/N)	EPA 8260B - VOCs + Freons	EPA 8270C - 1,4 Dioxane	
OC_GW_PZ-3_201908		8/16/19		Grab	GW	5	x	x			
OC_GW_PZ-9_20190816N		8/16/19	1308	Grab	GW	5	x				
OC_GW_OW-11_20190816		8/16/19	0932	Grab	GW	5	x	x			
OC_GW_OW-13B_201908		8/16/19		Grab	GW	5	x	x			
OC_TB_201908		8/16/19		Grab	H2O	5	x				
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____											
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown						<input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months					
Special Instructions/QC Requirements & Comments:											
Custody Seals Intact:		<input type="checkbox"/> Yes <input type="checkbox"/> No		43509		Cooler Temp. (°C): Obs'd:		Corr'd:		Therm ID No.:	
Relinquished by:				Company: <u>JAD</u>		Date/Time: <u>8/16/19 1500</u>				Company: <u>TAW</u>	
Relinquished by:				Company:		Date/Time:				Company:	
Relinquished by:				Company:		Date/Time:				Company:	

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-248231-1
SDG Number: Omega Chemical

Login Number: 248231

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True		6
The cooler's custody seal, if present, is intact.	N/A	Not present	7
Sample custody seals, if present, are intact.	N/A	Not Present	8
The cooler or samples do not appear to have been compromised or tampered with.	True		9
Samples were received on ice.	True		10
Cooler Temperature is acceptable.	True		11
Cooler Temperature is recorded.	True		12
COC is present.	True		13
COC is filled out in ink and legible.	True		14
COC is filled out with all pertinent information.	True		15
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.	
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		



Environment Testing
TestAmerica

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ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-248234-1

Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chem.-2019 Semi-Ann. GWM

For:

Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson

Danielle Roberts

Authorized for release by:
8/30/2019 3:15:52 PM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-248234-1	OC_GW_OW-1B_20190816	Water	08/16/19 09:11	08/16/19 16:05	
440-248234-2	OC_GW_OW-3B_20190816	Water	08/16/19 07:45	08/16/19 16:05	
440-248234-3	OC_GW_OW-12_20190816	Water	08/16/19 09:42	08/16/19 16:05	
440-248234-4	OC_TB1_20190816	Water	08/16/19 07:00	08/16/19 16:05	
440-248234-5	OC_GW_OW-3B_20190816K	Water	08/16/19 07:47	08/16/19 16:05	

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Case Narrative

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
SDG: Omega Chemical

Job ID: 440-248234-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-248234-1

Comments

No additional comments.

Receipt

The samples were received on 8/16/2019 4:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.9° C.

GC/MS VOA

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-564140 recovered above the upper control limit for Isopropyl alcohol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: OC_GW_OW-1B_20190816 (440-248234-1), OC_GW_OW-3B_20190816 (440-248234-2), OC_GW_OW-12_20190816 (440-248234-3), OC_TB1_20190816 (440-248234-4), OC_GW_OW-3B_20190816K (440-248234-5) and (CCV 440-564140/3).

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 440-564140 recovered outside control limits for the following analyte: Isopropyl alcohol. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_OW-1B_20190816

Lab Sample ID: 440-248234-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	7.2		5.0	0.50	ug/L	1		8260B	Total/NA
Tetrachloroethene	4.5		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	3.0		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.82		0.51	0.10	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_OW-3B_20190816

Lab Sample ID: 440-248234-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	8.9		1.0	0.25	ug/L	1		8260B	Total/NA

Client Sample ID: OC_GW_OW-12_20190816

Lab Sample ID: 440-248234-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	74		10	2.5	ug/L	10		8260B	Total/NA
1,1-Dichloroethene	85		10	2.5	ug/L	10		8260B	Total/NA
1,2-Dichlorobenzene	3.2	J	10	2.5	ug/L	10		8260B	Total/NA
Chloroform	60		10	2.5	ug/L	10		8260B	Total/NA
Trichloroethene	260		10	2.5	ug/L	10		8260B	Total/NA
Trichlorofluoromethane	48		10	2.5	ug/L	10		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane - DL	1600		500	50	ug/L	100		8260B	Total/NA
Tetrachloroethene - DL	2500		100	25	ug/L	100		8260B	Total/NA
1,4-Dioxane	5.0		0.51	0.10	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_TB1_20190816

Lab Sample ID: 440-248234-4

No Detections.

Client Sample ID: OC_GW_OW-3B_20190816K

Lab Sample ID: 440-248234-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	10		1.0	0.25	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_OW-1B_20190816

Lab Sample ID: 440-248234-1

Matrix: Water

Date Collected: 08/16/19 09:11

Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/20/19 03:21	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/20/19 03:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/20/19 03:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	7.2		5.0	0.50	ug/L			08/20/19 03:21	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/20/19 03:21	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/20/19 03:21	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/20/19 03:21	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/20/19 03:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/20/19 03:21	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/20/19 03:21	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/20/19 03:21	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/20/19 03:21	1
1,2-Dichloropropene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/20/19 03:21	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/20/19 03:21	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
Acetone	ND		10	10	ug/L			08/20/19 03:21	1
Benzene	ND		0.50	0.25	ug/L			08/20/19 03:21	1
Bromobenzene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/20/19 03:21	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/20/19 03:21	1
Bromoform	ND		1.0	0.40	ug/L			08/20/19 03:21	1
Bromomethane	ND		1.0	0.25	ug/L			08/20/19 03:21	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/20/19 03:21	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
Chloroethane	ND		1.0	0.40	ug/L			08/20/19 03:21	1
Chloroform	ND		1.0	0.25	ug/L			08/20/19 03:21	1
Chloromethane	ND		1.0	0.25	ug/L			08/20/19 03:21	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/20/19 03:21	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/20/19 03:21	1
Dibromomethane	ND		1.0	0.25	ug/L			08/20/19 03:21	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/20/19 03:21	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/20/19 03:21	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/20/19 03:21	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/20/19 03:21	1
Naphthalene	ND		1.0	0.40	ug/L			08/20/19 03:21	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/20/19 03:21	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_OW-1B_20190816

Lab Sample ID: 440-248234-1

Matrix: Water

Date Collected: 08/16/19 09:11
 Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
o-Xylene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
Styrene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
Tetrachloroethene	4.5		1.0	0.25	ug/L			08/20/19 03:21	1
Toluene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/20/19 03:21	1
Trichloroethene	ND		1.0	0.25	ug/L			08/20/19 03:21	1
Trichlorofluoromethane	3.0		1.0	0.25	ug/L			08/20/19 03:21	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/20/19 03:21	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/20/19 03:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 130					08/20/19 03:21	1
4-Bromofluorobenzene (Surr)	98		80 - 120					08/20/19 03:21	1
Dibromofluoromethane (Surr)	107		76 - 132					08/20/19 03:21	1
Toluene-d8 (Surr)	102		80 - 128					08/20/19 03:21	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/28/19 03:29	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/28/19 03:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 130					08/28/19 03:29	1
4-Bromofluorobenzene (Surr)	101		80 - 120					08/28/19 03:29	1
Dibromofluoromethane (Surr)	102		76 - 132					08/28/19 03:29	1
Toluene-d8 (Surr)	99		80 - 128					08/28/19 03:29	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.82		0.51	0.10	ug/L		08/20/19 10:01	08/21/19 10:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	47		27 - 120				08/20/19 10:01	08/21/19 10:24	1

Client Sample ID: OC_GW_OW-3B_20190816

Lab Sample ID: 440-248234-2

Matrix: Water

Date Collected: 08/16/19 07:45
 Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/20/19 03:51	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/20/19 03:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/20/19 03:51	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_OW-3B_20190816

Lab Sample ID: 440-248234-2

Matrix: Water

Date Collected: 08/16/19 07:45

Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/20/19 03:51	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/20/19 03:51	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/20/19 03:51	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/20/19 03:51	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/20/19 03:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/20/19 03:51	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/20/19 03:51	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/20/19 03:51	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/20/19 03:51	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/20/19 03:51	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/20/19 03:51	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/20/19 03:51	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Acetone	ND		10	10	ug/L			08/20/19 03:51	1
Benzene	ND		0.50	0.25	ug/L			08/20/19 03:51	1
Bromobenzene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Bromo(chloromethane)	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Bromoform	ND		1.0	0.40	ug/L			08/20/19 03:51	1
Bromomethane	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/20/19 03:51	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Chloroethane	ND		1.0	0.40	ug/L			08/20/19 03:51	1
Chloroform	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Chloromethane	ND		1.0	0.25	ug/L			08/20/19 03:51	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/20/19 03:51	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Dibromomethane	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/20/19 03:51	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/20/19 03:51	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/20/19 03:51	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Naphthalene	ND		1.0	0.40	ug/L			08/20/19 03:51	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/20/19 03:51	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
o-Xylene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/20/19 03:51	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_OW-3B_20190816

Lab Sample ID: 440-248234-2

Matrix: Water

Date Collected: 08/16/19 07:45

Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Styrene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Tetrachloroethene	8.9		1.0	0.25	ug/L			08/20/19 03:51	1
Toluene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/20/19 03:51	1
Trichloroethene	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/20/19 03:51	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/20/19 03:51	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/20/19 03:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 130					08/20/19 03:51	1
4-Bromofluorobenzene (Surr)	98		80 - 120					08/20/19 03:51	1
Dibromofluoromethane (Surr)	104		76 - 132					08/20/19 03:51	1
Toluene-d8 (Surr)	103		80 - 128					08/20/19 03:51	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/28/19 03:55	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/28/19 03:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 130					08/28/19 03:55	1
4-Bromofluorobenzene (Surr)	102		80 - 120					08/28/19 03:55	1
Dibromofluoromethane (Surr)	99		76 - 132					08/28/19 03:55	1
Toluene-d8 (Surr)	100		80 - 128					08/28/19 03:55	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	0.10	ug/L		08/20/19 10:01	08/21/19 10:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	59		27 - 120				08/20/19 10:01	08/21/19 10:46	1

Client Sample ID: OC_GW_OW-12_20190816

Lab Sample ID: 440-248234-3

Matrix: Water

Date Collected: 08/16/19 09:42

Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		10	2.5	ug/L			08/20/19 04:21	10
1,1,1-Trichloroethane	74		10	2.5	ug/L			08/20/19 04:21	10
1,1,2,2-Tetrachloroethane	ND		10	2.5	ug/L			08/20/19 04:21	10
1,1,2-Trichloroethane	ND		10	2.5	ug/L			08/20/19 04:21	10
1,1-Dichloroethane	ND		10	2.5	ug/L			08/20/19 04:21	10
1,1-Dichloroethene	85		10	2.5	ug/L			08/20/19 04:21	10

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_OW-12_20190816

Lab Sample ID: 440-248234-3

Matrix: Water

Date Collected: 08/16/19 09:42

Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	ND		10	2.5	ug/L			08/20/19 04:21	10
1,2,3-Trichlorobenzene	ND		10	4.0	ug/L			08/20/19 04:21	10
1,2,3-Trichloropropane	ND		10	4.0	ug/L			08/20/19 04:21	10
1,2,4-Trichlorobenzene	ND		10	4.0	ug/L			08/20/19 04:21	10
1,2,4-Trimethylbenzene	ND		10	2.5	ug/L			08/20/19 04:21	10
1,2-Dibromo-3-Chloropropane	ND		50	5.0	ug/L			08/20/19 04:21	10
1,2-Dibromoethane (EDB)	ND		10	2.5	ug/L			08/20/19 04:21	10
1,2-Dichlorobenzene	3.2	J	10	2.5	ug/L			08/20/19 04:21	10
1,2-Dichloroethane	ND		10	2.5	ug/L			08/20/19 04:21	10
1,2-Dichloropropane	ND		10	2.5	ug/L			08/20/19 04:21	10
1,3,5-Trimethylbenzene	ND		10	2.5	ug/L			08/20/19 04:21	10
1,3-Dichlorobenzene	ND		10	2.5	ug/L			08/20/19 04:21	10
1,3-Dichloropropane	ND		10	2.5	ug/L			08/20/19 04:21	10
1,4-Dichlorobenzene	ND		10	2.5	ug/L			08/20/19 04:21	10
2,2-Dichloropropane	ND		10	4.0	ug/L			08/20/19 04:21	10
2-Chlorotoluene	ND		10	2.5	ug/L			08/20/19 04:21	10
4-Chlorotoluene	ND		10	2.5	ug/L			08/20/19 04:21	10
Acetone	ND		100	100	ug/L			08/20/19 04:21	10
Benzene	ND		5.0	2.5	ug/L			08/20/19 04:21	10
Bromobenzene	ND		10	2.5	ug/L			08/20/19 04:21	10
Bromoform	ND		10	4.0	ug/L			08/20/19 04:21	10
Bromomethane	ND		10	2.5	ug/L			08/20/19 04:21	10
Bromodichloromethane	ND		10	2.5	ug/L			08/20/19 04:21	10
Chlorobenzene	ND		10	2.5	ug/L			08/20/19 04:21	10
Chloroethane	ND		10	4.0	ug/L			08/20/19 04:21	10
Chloroform	60		10	2.5	ug/L			08/20/19 04:21	10
Chloromethane	ND		10	2.5	ug/L			08/20/19 04:21	10
cis-1,2-Dichloroethene	ND		10	2.5	ug/L			08/20/19 04:21	10
cis-1,3-Dichloropropene	ND		5.0	2.5	ug/L			08/20/19 04:21	10
Dibromochloromethane	ND		10	2.5	ug/L			08/20/19 04:21	10
Dibromomethane	ND		10	2.5	ug/L			08/20/19 04:21	10
Dichlorodifluoromethane	ND		10	4.0	ug/L			08/20/19 04:21	10
Ethylbenzene	ND		10	2.5	ug/L			08/20/19 04:21	10
Hexachlorobutadiene	ND		10	2.5	ug/L			08/20/19 04:21	10
Isopropylbenzene	ND		10	2.5	ug/L			08/20/19 04:21	10
m,p-Xylene	ND		10	5.0	ug/L			08/20/19 04:21	10
Methylene Chloride	ND		50	8.8	ug/L			08/20/19 04:21	10
Methyl-t-Butyl Ether (MTBE)	ND		10	2.5	ug/L			08/20/19 04:21	10
Naphthalene	ND		10	4.0	ug/L			08/20/19 04:21	10
n-Butylbenzene	ND		10	4.0	ug/L			08/20/19 04:21	10
N-Propylbenzene	ND		10	2.5	ug/L			08/20/19 04:21	10
o-Xylene	ND		10	2.5	ug/L			08/20/19 04:21	10
p-Isopropyltoluene	ND		10	2.5	ug/L			08/20/19 04:21	10
sec-Butylbenzene	ND		10	2.5	ug/L			08/20/19 04:21	10
Styrene	ND		10	2.5	ug/L			08/20/19 04:21	10
tert-Butylbenzene	ND		10	2.5	ug/L			08/20/19 04:21	10
Toluene	ND		10	2.5	ug/L			08/20/19 04:21	10

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_OW-12_20190816

Lab Sample ID: 440-248234-3

Matrix: Water

Date Collected: 08/16/19 09:42

Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		10	2.5	ug/L			08/20/19 04:21	10
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/L			08/20/19 04:21	10
Trichloroethene	260		10	2.5	ug/L			08/20/19 04:21	10
Trichlorofluoromethane	48		10	2.5	ug/L			08/20/19 04:21	10
Vinyl chloride	ND		5.0	2.5	ug/L			08/20/19 04:21	10
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2000	T J	ug/L		1.46			08/20/19 04:21	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 130					08/20/19 04:21	10
4-Bromofluorobenzene (Surr)	102		80 - 120					08/20/19 04:21	10
Dibromofluoromethane (Surr)	102		76 - 132					08/20/19 04:21	10
Toluene-d8 (Surr)	104		80 - 128					08/20/19 04:21	10

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	1600		500	50	ug/L			08/20/19 04:50	100
Tetrachloroethene	2500		100	25	ug/L			08/20/19 04:50	100
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/20/19 04:50	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 130					08/20/19 04:50	100
4-Bromofluorobenzene (Surr)	100		80 - 120					08/20/19 04:50	100
Dibromofluoromethane (Surr)	96		76 - 132					08/20/19 04:50	100
Toluene-d8 (Surr)	106		80 - 128					08/20/19 04:50	100

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		2500	1800	ug/L			08/28/19 04:21	10
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/28/19 04:21	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 130					08/28/19 04:21	10
4-Bromofluorobenzene (Surr)	102		80 - 120					08/28/19 04:21	10
Dibromofluoromethane (Surr)	99		76 - 132					08/28/19 04:21	10
Toluene-d8 (Surr)	98		80 - 128					08/28/19 04:21	10

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	5.0		0.51	0.10	ug/L		08/20/19 10:01	08/21/19 11:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	34		27 - 120				08/20/19 10:01	08/21/19 11:07	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Client Sample ID: OC_TB1_20190816

Lab Sample ID: 440-248234-4

Matrix: Water

Date Collected: 08/16/19 07:00

Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L		08/20/19 05:20		1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L		08/20/19 05:20		1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L		08/20/19 05:20		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L		08/20/19 05:20		1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L		08/20/19 05:20		1
1,1-Dichloroethane	ND		1.0	0.25	ug/L		08/20/19 05:20		1
1,1-Dichloroethene	ND		1.0	0.25	ug/L		08/20/19 05:20		1
1,1-Dichloropropene	ND		1.0	0.25	ug/L		08/20/19 05:20		1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L		08/20/19 05:20		1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L		08/20/19 05:20		1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L		08/20/19 05:20		1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L		08/20/19 05:20		1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L		08/20/19 05:20		1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L		08/20/19 05:20		1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L		08/20/19 05:20		1
1,2-Dichloroethane	ND		1.0	0.25	ug/L		08/20/19 05:20		1
1,2-Dichloropropane	ND		1.0	0.25	ug/L		08/20/19 05:20		1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L		08/20/19 05:20		1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L		08/20/19 05:20		1
1,3-Dichloropropane	ND		1.0	0.25	ug/L		08/20/19 05:20		1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L		08/20/19 05:20		1
2,2-Dichloropropane	ND		1.0	0.40	ug/L		08/20/19 05:20		1
2-Chlorotoluene	ND		1.0	0.25	ug/L		08/20/19 05:20		1
4-Chlorotoluene	ND		1.0	0.25	ug/L		08/20/19 05:20		1
Acetone	ND		10	10	ug/L		08/20/19 05:20		1
Benzene	ND		0.50	0.25	ug/L		08/20/19 05:20		1
Bromobenzene	ND		1.0	0.25	ug/L		08/20/19 05:20		1
Bromochloromethane	ND		1.0	0.25	ug/L		08/20/19 05:20		1
Bromodichloromethane	ND		1.0	0.25	ug/L		08/20/19 05:20		1
Bromoform	ND		1.0	0.40	ug/L		08/20/19 05:20		1
Bromomethane	ND		1.0	0.25	ug/L		08/20/19 05:20		1
Carbon tetrachloride	ND		0.50	0.25	ug/L		08/20/19 05:20		1
Chlorobenzene	ND		1.0	0.25	ug/L		08/20/19 05:20		1
Chloroethane	ND		1.0	0.40	ug/L		08/20/19 05:20		1
Chloroform	ND		1.0	0.25	ug/L		08/20/19 05:20		1
Chloromethane	ND		1.0	0.25	ug/L		08/20/19 05:20		1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L		08/20/19 05:20		1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L		08/20/19 05:20		1
Dibromochloromethane	ND		1.0	0.25	ug/L		08/20/19 05:20		1
Dibromomethane	ND		1.0	0.25	ug/L		08/20/19 05:20		1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L		08/20/19 05:20		1
Ethylbenzene	ND		1.0	0.25	ug/L		08/20/19 05:20		1
Hexachlorobutadiene	ND		1.0	0.25	ug/L		08/20/19 05:20		1
Isopropylbenzene	ND		1.0	0.25	ug/L		08/20/19 05:20		1
m,p-Xylene	ND		1.0	0.50	ug/L		08/20/19 05:20		1
Methylene Chloride	ND		5.0	0.88	ug/L		08/20/19 05:20		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L		08/20/19 05:20		1
Naphthalene	ND		1.0	0.40	ug/L		08/20/19 05:20		1
n-Butylbenzene	ND		1.0	0.40	ug/L		08/20/19 05:20		1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
SDG: Omega Chemical

Client Sample ID: OC_TB1_20190816

Lab Sample ID: 440-248234-4

Matrix: Water

Date Collected: 08/16/19 07:00

Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	0.25	ug/L			08/20/19 05:20	1
o-Xylene	ND		1.0	0.25	ug/L			08/20/19 05:20	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/20/19 05:20	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/20/19 05:20	1
Styrene	ND		1.0	0.25	ug/L			08/20/19 05:20	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/20/19 05:20	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/20/19 05:20	1
Toluene	ND		1.0	0.25	ug/L			08/20/19 05:20	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/20/19 05:20	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/20/19 05:20	1
Trichloroethene	ND		1.0	0.25	ug/L			08/20/19 05:20	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/20/19 05:20	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/20/19 05:20	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/20/19 05:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 130					08/20/19 05:20	1
4-Bromofluorobenzene (Surr)	98		80 - 120					08/20/19 05:20	1
Dibromofluoromethane (Surr)	100		76 - 132					08/20/19 05:20	1
Toluene-d8 (Surr)	107		80 - 128					08/20/19 05:20	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/28/19 04:48	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/28/19 04:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 130					08/28/19 04:48	1
4-Bromofluorobenzene (Surr)	97		80 - 120					08/28/19 04:48	1
Dibromofluoromethane (Surr)	101		76 - 132					08/28/19 04:48	1
Toluene-d8 (Surr)	99		80 - 128					08/28/19 04:48	1

Client Sample ID: OC_GW_OW-3B_20190816K

Lab Sample ID: 440-248234-5

Matrix: Water

Date Collected: 08/16/19 07:47

Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/20/19 05:50	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/20/19 05:50	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/20/19 05:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/20/19 05:50	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/20/19 05:50	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/20/19 05:50	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/20/19 05:50	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_OW-3B_20190816K

Lab Sample ID: 440-248234-5

Matrix: Water

Date Collected: 08/16/19 07:47

Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/20/19 05:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/20/19 05:50	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/20/19 05:50	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/20/19 05:50	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/20/19 05:50	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/20/19 05:50	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/20/19 05:50	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/20/19 05:50	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Acetone	ND		10	10	ug/L			08/20/19 05:50	1
Benzene	ND		0.50	0.25	ug/L			08/20/19 05:50	1
Bromobenzene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Bromoform	ND		1.0	0.40	ug/L			08/20/19 05:50	1
Bromomethane	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/20/19 05:50	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Chloroethane	ND		1.0	0.40	ug/L			08/20/19 05:50	1
Chloroform	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Chloromethane	ND		1.0	0.25	ug/L			08/20/19 05:50	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/20/19 05:50	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Dibromomethane	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/20/19 05:50	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/20/19 05:50	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/20/19 05:50	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Naphthalene	ND		1.0	0.40	ug/L			08/20/19 05:50	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/20/19 05:50	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
o-Xylene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Styrene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Tetrachloroethene	10		1.0	0.25	ug/L			08/20/19 05:50	1
Toluene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/20/19 05:50	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_OW-3B_20190816K

Lab Sample ID: 440-248234-5

Matrix: Water

Date Collected: 08/16/19 07:47

Date Received: 08/16/19 16:05

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/20/19 05:50	1
Trichloroethene	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/20/19 05:50	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/20/19 05:50	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/20/19 05:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 130					08/20/19 05:50	1
4-Bromofluorobenzene (Surr)	97		80 - 120					08/20/19 05:50	1
Dibromofluoromethane (Surr)	102		76 - 132					08/20/19 05:50	1
Toluene-d8 (Surr)	105		80 - 128					08/20/19 05:50	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	180	ug/L			08/28/19 05:14	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/28/19 05:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 130					08/28/19 05:14	1
4-Bromofluorobenzene (Surr)	103		80 - 120					08/28/19 05:14	1
Dibromofluoromethane (Surr)	100		76 - 132					08/28/19 05:14	1
Toluene-d8 (Surr)	98		80 - 128					08/28/19 05:14	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.49	0.099	ug/L		08/20/19 10:01	08/21/19 11:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	60		27 - 120				08/20/19 10:01	08/21/19 11:29	1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-248097-A-1 MS	Matrix Spike	94	101	99	97
440-248097-A-1 MSD	Matrix Spike Duplicate	93	97	97	99
440-248234-1	OC_GW_OW-1B_20190816	113	98	107	102
440-248234-1 - RA	OC_GW_OW-1B_20190816	97	101	102	99
440-248234-2	OC_GW_OW-3B_20190816	111	98	104	103
440-248234-2 - RA	OC_GW_OW-3B_20190816	97	102	99	100
440-248234-3	OC_GW_OW-12_20190816	101	102	102	104
440-248234-3 - DL	OC_GW_OW-12_20190816	100	100	96	106
440-248234-3 - RA	OC_GW_OW-12_20190816	97	102	99	98
440-248234-4	OC_TB1_20190816	103	98	100	107
440-248234-4 - RA	OC_TB1_20190816	97	97	101	99
440-248234-5	OC_GW_OW-3B_20190816K	104	97	102	105
440-248234-5 - RA	OC_GW_OW-3B_20190816K	100	103	100	98
440-248319-A-1 MS	Matrix Spike	121	98	108	90
440-248319-A-1 MSD	Matrix Spike Duplicate	118	99	107	96
LCS 440-564140/1003	Lab Control Sample	109	93	108	95
LCS 440-564140/5	Lab Control Sample	121	99	108	89
LCS 440-565761/1003	Lab Control Sample	90	97	100	100
MB 440-564140/4	Method Blank	120	98	110	95
MB 440-565761/4	Method Blank	93	94	97	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 DBFM = Dibromofluoromethane (Surr)
 TOL = Toluene-d8 (Surr)

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DXE (27-120)			
440-248234-1	OC_GW_OW-1B_20190816	47			
440-248234-2	OC_GW_OW-3B_20190816	59			
440-248234-3	OC_GW_OW-12_20190816	34			
440-248234-5	OC_GW_OW-3B_20190816K	60			
LCS 440-564280/2-A	Lab Control Sample	57			
LCSD 440-564280/3-A	Lab Control Sample Dup	51			
MB 440-564280/1-A	Method Blank	67			

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Client Sample ID: OC_GW_OW-1B_20190816

Date Collected: 08/16/19 09:11

Date Received: 08/16/19 16:05

Lab Sample ID: 440-248234-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565761	08/28/19 03:29	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	564140	08/20/19 03:21	WC	TAL IRV
Total/NA	Prep	3520C			975 mL	1.0 mL	564280	08/20/19 10:01	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564521	08/21/19 10:24	YCL	TAL IRV

Client Sample ID: OC_GW_OW-3B_20190816

Date Collected: 08/16/19 07:45

Date Received: 08/16/19 16:05

Lab Sample ID: 440-248234-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565761	08/28/19 03:55	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	564140	08/20/19 03:51	WC	TAL IRV
Total/NA	Prep	3520C			1005 mL	1.0 mL	564280	08/20/19 10:01	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564521	08/21/19 10:46	YCL	TAL IRV

Client Sample ID: OC_GW_OW-12_20190816

Date Collected: 08/16/19 09:42

Date Received: 08/16/19 16:05

Lab Sample ID: 440-248234-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	10	10 mL	10 mL	565761	08/28/19 04:21	WC	TAL IRV
Total/NA	Analysis	8260B		10	10 mL	10 mL	564140	08/20/19 04:21	WC	TAL IRV
Total/NA	Analysis	8260B	DL	100	10 mL	10 mL	564140	08/20/19 04:50	WC	TAL IRV
Total/NA	Prep	3520C			990 mL	1.0 mL	564280	08/20/19 10:01	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564521	08/21/19 11:07	YCL	TAL IRV

Client Sample ID: OC_TB1_20190816

Date Collected: 08/16/19 07:00

Date Received: 08/16/19 16:05

Lab Sample ID: 440-248234-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565761	08/28/19 04:48	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	564140	08/20/19 05:20	WC	TAL IRV

Client Sample ID: OC_GW_OW-3B_20190816K

Date Collected: 08/16/19 07:47

Date Received: 08/16/19 16:05

Lab Sample ID: 440-248234-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565761	08/28/19 05:14	WC	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	564140	08/20/19 05:50	WC	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	564280	08/20/19 10:01	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564521	08/21/19 11:29	YCL	TAL IRV

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
SDG: Omega Chemical

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-564140/4

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L		08/19/19 21:24		1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L		08/19/19 21:24		1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L		08/19/19 21:24		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L		08/19/19 21:24		1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L		08/19/19 21:24		1
1,1-Dichloroethane	ND		1.0	0.25	ug/L		08/19/19 21:24		1
1,1-Dichloroethene	ND		1.0	0.25	ug/L		08/19/19 21:24		1
1,1-Dichloropropene	ND		1.0	0.25	ug/L		08/19/19 21:24		1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L		08/19/19 21:24		1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L		08/19/19 21:24		1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L		08/19/19 21:24		1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L		08/19/19 21:24		1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L		08/19/19 21:24		1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L		08/19/19 21:24		1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L		08/19/19 21:24		1
1,2-Dichloroethane	ND		1.0	0.25	ug/L		08/19/19 21:24		1
1,2-Dichloropropane	ND		1.0	0.25	ug/L		08/19/19 21:24		1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L		08/19/19 21:24		1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L		08/19/19 21:24		1
1,3-Dichloropropane	ND		1.0	0.25	ug/L		08/19/19 21:24		1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L		08/19/19 21:24		1
2,2-Dichloropropane	ND		1.0	0.40	ug/L		08/19/19 21:24		1
2-Chlorotoluene	ND		1.0	0.25	ug/L		08/19/19 21:24		1
4-Chlorotoluene	ND		1.0	0.25	ug/L		08/19/19 21:24		1
Acetone	ND		10	10	ug/L		08/19/19 21:24		1
Benzene	ND		0.50	0.25	ug/L		08/19/19 21:24		1
Bromobenzene	ND		1.0	0.25	ug/L		08/19/19 21:24		1
Bromochloromethane	ND		1.0	0.25	ug/L		08/19/19 21:24		1
Bromodichloromethane	ND		1.0	0.25	ug/L		08/19/19 21:24		1
Bromoform	ND		1.0	0.40	ug/L		08/19/19 21:24		1
Bromomethane	ND		1.0	0.25	ug/L		08/19/19 21:24		1
Carbon tetrachloride	ND		0.50	0.25	ug/L		08/19/19 21:24		1
Chlorobenzene	ND		1.0	0.25	ug/L		08/19/19 21:24		1
Chloroethane	ND		1.0	0.40	ug/L		08/19/19 21:24		1
Chloroform	ND		1.0	0.25	ug/L		08/19/19 21:24		1
Chloromethane	ND		1.0	0.25	ug/L		08/19/19 21:24		1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L		08/19/19 21:24		1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L		08/19/19 21:24		1
Dibromochloromethane	ND		1.0	0.25	ug/L		08/19/19 21:24		1
Dibromomethane	ND		1.0	0.25	ug/L		08/19/19 21:24		1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L		08/19/19 21:24		1
Ethylbenzene	ND		1.0	0.25	ug/L		08/19/19 21:24		1
Hexachlorobutadiene	ND		1.0	0.25	ug/L		08/19/19 21:24		1
Isopropylbenzene	ND		1.0	0.25	ug/L		08/19/19 21:24		1
m,p-Xylene	ND		1.0	0.50	ug/L		08/19/19 21:24		1
Methylene Chloride	ND		5.0	0.88	ug/L		08/19/19 21:24		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L		08/19/19 21:24		1
Naphthalene	ND		1.0	0.40	ug/L		08/19/19 21:24		1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-564140/4

Client Sample ID: Method Blank
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 564140

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND				1.0	0.40	ug/L			08/19/19 21:24	1
N-Propylbenzene	ND				1.0	0.25	ug/L			08/19/19 21:24	1
o-Xylene	ND				1.0	0.25	ug/L			08/19/19 21:24	1
p-Isopropyltoluene	ND				1.0	0.25	ug/L			08/19/19 21:24	1
sec-Butylbenzene	ND				1.0	0.25	ug/L			08/19/19 21:24	1
Styrene	ND				1.0	0.25	ug/L			08/19/19 21:24	1
tert-Butylbenzene	ND				1.0	0.25	ug/L			08/19/19 21:24	1
Tetrachloroethene	ND				1.0	0.25	ug/L			08/19/19 21:24	1
Toluene	ND				1.0	0.25	ug/L			08/19/19 21:24	1
trans-1,2-Dichloroethene	ND				1.0	0.25	ug/L			08/19/19 21:24	1
trans-1,3-Dichloropropene	ND				0.50	0.25	ug/L			08/19/19 21:24	1
Trichloroethene	ND				1.0	0.25	ug/L			08/19/19 21:24	1
Trichlorofluoromethane	ND				1.0	0.25	ug/L			08/19/19 21:24	1
Vinyl chloride	ND				0.50	0.25	ug/L			08/19/19 21:24	1

Tentatively Identified Compound	MB	MB	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None				ug/L					08/19/19 21:24	1
Surrogate	MB	MB	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120				70 - 130					08/19/19 21:24	1
4-Bromofluorobenzene (Surr)	98				80 - 120					08/19/19 21:24	1
Dibromofluoromethane (Surr)	110				76 - 132					08/19/19 21:24	1
Toluene-d8 (Surr)	95				80 - 128					08/19/19 21:24	1

Lab Sample ID: LCS 440-564140/1003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 564140

Analyte	Spike	LCS	LCS	Result	Qualifier	Unit	D	%Rec	Limits	%Rec.
	Added									
Isopropyl alcohol	250			417	*	ug/L		167	49 - 142	
Surrogate	LCS	LCS	%Recovery	Qualifier	Limits					
1,2-Dichloroethane-d4 (Surr)	109				70 - 130					
4-Bromofluorobenzene (Surr)	93				80 - 120					
Dibromofluoromethane (Surr)	108				76 - 132					
Toluene-d8 (Surr)	95				80 - 128					

Lab Sample ID: LCS 440-564140/5

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 564140

Analyte	Spike	LCS	LCS	Result	Qualifier	Unit	D	%Rec	Limits
	Added								
1,1,1,2-Tetrachloroethane	10.0			9.48		ug/L		95	60 - 141
1,1,1-Trichloroethane	10.0			10.1		ug/L		101	70 - 130
1,1,2,2-Tetrachloroethane	10.0			11.7		ug/L		117	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0			9.49		ug/L		95	60 - 140
ne									
1,1,2-Trichloroethane	10.0			10.4		ug/L		104	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Job ID: 440-248234-1

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-564140/5

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 564140

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				Limits
1,1-Dichloroethane	10.0	10.1		ug/L	101	64 - 130	
1,1-Dichloroethene	10.0	9.51		ug/L	95	70 - 130	
1,1-Dichloropropene	10.0	9.09		ug/L	91	70 - 130	
1,2,3-Trichlorobenzene	10.0	11.2		ug/L	112	60 - 140	
1,2,3-Trichloropropane	10.0	12.6		ug/L	126	63 - 130	
1,2,4-Trichlorobenzene	10.0	11.0		ug/L	110	60 - 140	
1,2,4-Trimethylbenzene	10.0	10.2		ug/L	102	70 - 135	
1,2-Dibromo-3-Chloropropane	10.0	13.1		ug/L	131	52 - 140	
1,2-Dibromoethane (EDB)	10.0	10.9		ug/L	109	70 - 130	
1,2-Dichlorobenzene	10.0	10.5		ug/L	105	70 - 130	
1,2-Dichloroethane	10.0	11.2		ug/L	112	57 - 138	
1,2-Dichloropropane	10.0	10.3		ug/L	103	67 - 130	
1,3,5-Trimethylbenzene	10.0	10.1		ug/L	101	70 - 136	
1,3-Dichlorobenzene	10.0	10.4		ug/L	104	70 - 130	
1,3-Dichloropropane	10.0	10.3		ug/L	103	70 - 130	
1,4-Dichlorobenzene	10.0	9.91		ug/L	99	70 - 130	
2,2-Dichloropropane	10.0	8.91		ug/L	89	68 - 141	
2-Chlorotoluene	10.0	9.66		ug/L	97	70 - 130	
4-Chlorotoluene	10.0	10.2		ug/L	102	70 - 130	
Acetone	50.0	55.2		ug/L	110	10 - 150	
Benzene	10.0	9.60		ug/L	96	68 - 130	
Bromobenzene	10.0	9.70		ug/L	97	70 - 130	
Bromochloromethane	10.0	11.3		ug/L	113	70 - 130	
Bromodichloromethane	10.0	10.9		ug/L	109	70 - 132	
Bromoform	10.0	11.5		ug/L	115	60 - 148	
Bromomethane	10.0	9.17		ug/L	92	64 - 139	
Carbon tetrachloride	10.0	10.0		ug/L	100	60 - 150	
Chlorobenzene	10.0	8.99		ug/L	90	70 - 130	
Chloroethane	10.0	8.92		ug/L	89	64 - 135	
Chloroform	10.0	10.5		ug/L	105	70 - 130	
Chloromethane	10.0	8.29		ug/L	83	47 - 140	
cis-1,2-Dichloroethene	10.0	10.7		ug/L	107	70 - 133	
cis-1,3-Dichloropropene	10.0	9.54		ug/L	95	70 - 133	
Dibromochloromethane	10.0	10.7		ug/L	107	69 - 145	
Dibromomethane	10.0	11.8		ug/L	118	70 - 130	
Dichlorodifluoromethane	10.0	7.95		ug/L	79	29 - 150	
Ethylbenzene	10.0	9.17		ug/L	92	70 - 130	
Hexachlorobutadiene	10.0	9.81		ug/L	98	10 - 150	
Isopropylbenzene	10.0	9.59		ug/L	96	70 - 136	
m,p-Xylene	10.0	9.06		ug/L	91	70 - 130	
Methylene Chloride	10.0	10.2		ug/L	102	52 - 130	
Methyl-t-Butyl Ether (MTBE)	10.0	12.6		ug/L	126	63 - 131	
Naphthalene	10.0	12.7		ug/L	127	60 - 140	
n-Butylbenzene	10.0	10.1		ug/L	101	65 - 150	
N-Propylbenzene	10.0	9.72		ug/L	97	67 - 139	
o-Xylene	10.0	10.0		ug/L	100	70 - 130	
p-Isopropyltoluene	10.0	9.74		ug/L	97	70 - 132	
sec-Butylbenzene	10.0	9.93		ug/L	99	70 - 138	
Styrene	10.0	9.66		ug/L	97	70 - 134	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Job ID: 440-248234-1

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-564140/5

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 564140

Analyte		Spike	LCS	LCS	Unit	D	%Rec	%Rec.
		Added	Result	Qualifier				
tert-Butylbenzene		10.0	9.54		ug/L	95	70 - 130	
Tetrachloroethene		10.0	8.66		ug/L	87	70 - 130	
Toluene		10.0	8.61		ug/L	86	70 - 130	
trans-1,2-Dichloroethene		10.0	9.75		ug/L	97	70 - 130	
trans-1,3-Dichloropropene		10.0	10.5		ug/L	105	70 - 132	
Trichloroethene		10.0	9.74		ug/L	97	70 - 130	
Trichlorofluoromethane		10.0	9.40		ug/L	94	60 - 150	
Vinyl chloride		10.0	8.77		ug/L	88	59 - 133	

Surrogate	LCS		LCS	Limits
	%Recovery	Qualifier		
1,2-Dichloroethane-d4 (Surr)	121		70 - 130	
4-Bromofluorobenzene (Surr)	99		80 - 120	
Dibromofluoromethane (Surr)	108		76 - 132	
Toluene-d8 (Surr)	89		80 - 128	

Lab Sample ID: 440-248319-A-1 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 564140

Analyte	Sample	Sample	Spike	MS		MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier	Limits				
1,1,1,2-Tetrachloroethane	ND		10.0	9.49		ug/L	95	60 - 149		
1,1,1-Trichloroethane	ND		10.0	9.74		ug/L	97	70 - 130		
1,1,2,2-Tetrachloroethane	ND		10.0	11.8		ug/L	118	63 - 130		
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	9.32		ug/L	93	60 - 140		
1,1,2-Trichloroethane	ND		10.0	10.2		ug/L	102	70 - 130		
1,1-Dichloroethane	ND		10.0	9.61		ug/L	96	65 - 130		
1,1-Dichloroethene	ND		10.0	8.75		ug/L	87	70 - 130		
1,1-Dichloropropene	ND		10.0	9.28		ug/L	93	64 - 130		
1,2,3-Trichlorobenzene	ND		10.0	11.9		ug/L	119	60 - 140		
1,2,3-Trichloropropane	ND	F1	10.0	13.2	F1	ug/L	132	60 - 130		
1,2,4-Trichlorobenzene	ND		10.0	11.1		ug/L	111	60 - 140		
1,2,4-Trimethylbenzene	ND		10.0	10.6		ug/L	106	70 - 130		
1,2-Dibromo-3-Chloropropane	ND		10.0	13.6		ug/L	136	48 - 140		
1,2-Dibromoethane (EDB)	ND		10.0	10.5		ug/L	105	70 - 131		
1,2-Dichlorobenzene	ND		10.0	10.9		ug/L	109	70 - 130		
1,2-Dichloroethane	ND		10.0	10.5		ug/L	105	56 - 146		
1,2-Dichloropropane	ND		10.0	9.76		ug/L	98	69 - 130		
1,3,5-Trimethylbenzene	ND		10.0	10.4		ug/L	104	70 - 130		
1,3-Dichlorobenzene	ND		10.0	10.3		ug/L	103	70 - 130		
1,3-Dichloropropane	ND		10.0	9.87		ug/L	99	70 - 130		
1,4-Dichlorobenzene	ND		10.0	10.2		ug/L	102	70 - 130		
2,2-Dichloropropane	ND		10.0	9.52		ug/L	95	69 - 138		
2-Chlorotoluene	ND		10.0	9.79		ug/L	98	70 - 130		
4-Chlorotoluene	ND		10.0	10.4		ug/L	104	70 - 130		
Acetone	ND		50.0	50.8		ug/L	102	10 - 150		
Benzene	ND		10.0	9.35		ug/L	93	66 - 130		
Bromobenzene	ND		10.0	9.79		ug/L	98	70 - 130		
Bromochloromethane	ND		10.0	11.1		ug/L	111	70 - 130		

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Job ID: 440-248234-1

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248319-A-1 MS

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 564140

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Limits
	Result	Qualifier	Added	Result	Qualifier				
Bromodichloromethane	ND		10.0	10.2		ug/L	102	70 - 138	
Bromoform	ND		10.0	11.1		ug/L	111	59 - 150	
Bromomethane	ND		10.0	8.58		ug/L	86	62 - 131	
Carbon tetrachloride	ND		10.0	10.1		ug/L	101	60 - 150	
Chlorobenzene	ND		10.0	9.00		ug/L	90	70 - 130	
Chloroethane	ND		10.0	8.23		ug/L	82	68 - 130	
Chloroform	ND		10.0	9.91		ug/L	99	70 - 130	
Chloromethane	ND		10.0	7.60		ug/L	76	39 - 144	
cis-1,2-Dichloroethene	ND		10.0	9.69		ug/L	97	70 - 130	
cis-1,3-Dichloropropene	ND		10.0	9.20		ug/L	92	70 - 133	
Dibromochloromethane	ND		10.0	10.6		ug/L	106	70 - 148	
Dibromomethane	ND		10.0	10.7		ug/L	107	70 - 130	
Dichlorodifluoromethane	ND		10.0	7.18		ug/L	72	25 - 142	
Ethylbenzene	ND		10.0	8.99		ug/L	90	70 - 130	
Hexachlorobutadiene	ND		10.0	10.6		ug/L	106	10 - 150	
Isopropylbenzene	ND		10.0	9.58		ug/L	96	70 - 132	
m,p-Xylene	ND		10.0	9.15		ug/L	92	70 - 133	
Methylene Chloride	ND		10.0	9.65		ug/L	96	52 - 130	
Methyl-t-Butyl Ether (MTBE)	4.5		10.0	16.0		ug/L	116	70 - 130	
Naphthalene	ND		10.0	12.5		ug/L	125	60 - 140	
n-Butylbenzene	ND		10.0	10.7		ug/L	107	61 - 149	
N-Propylbenzene	ND		10.0	10.1		ug/L	101	66 - 135	
o-Xylene	ND		10.0	9.93		ug/L	99	70 - 133	
p-Isopropyltoluene	ND		10.0	10.3		ug/L	103	70 - 130	
sec-Butylbenzene	ND		10.0	10.5		ug/L	105	67 - 134	
Styrene	ND		10.0	9.37		ug/L	94	29 - 150	
tert-Butylbenzene	ND		10.0	10.0		ug/L	100	70 - 130	
Tetrachloroethene	ND		10.0	8.82		ug/L	88	70 - 137	
Toluene	ND		10.0	8.50		ug/L	85	70 - 130	
trans-1,2-Dichloroethene	ND		10.0	9.13		ug/L	91	70 - 130	
trans-1,3-Dichloropropene	ND		10.0	10.3		ug/L	103	70 - 138	
Trichloroethene	0.34	J	10.0	9.61		ug/L	93	70 - 130	
Trichlorofluoromethane	ND		10.0	9.31		ug/L	93	60 - 150	
Vinyl chloride	ND		10.0	8.11		ug/L	81	50 - 137	

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	121		70 - 130
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	108		76 - 132
Toluene-d8 (Surr)	90		80 - 128

Lab Sample ID: 440-248319-A-1 MSD

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 564140

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1,1,2-Tetrachloroethane	ND		10.0	9.98		ug/L	100	60 - 149		5	20
1,1,1-Trichloroethane	ND		10.0	9.03		ug/L	90	70 - 130		8	20

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Job ID: 440-248234-1

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248319-A-1 MSD

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 564140

Analyte	Sample Result	Sample Qualifier	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD Limit
			Added	Result	Qualifier				Limits		
1,1,2,2-Tetrachloroethane	ND		10.0	11.3		ug/L		113	63 - 130	5	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	8.63		ug/L		86	60 - 140	8	20
1,1,2-Trichloroethane	ND		10.0	11.0		ug/L		110	70 - 130	7	25
1,1-Dichloroethane	ND		10.0	9.03		ug/L		90	65 - 130	6	20
1,1-Dichloroethene	ND		10.0	8.32		ug/L		83	70 - 130	5	20
1,1-Dichloropropene	ND		10.0	8.45		ug/L		85	64 - 130	9	20
1,2,3-Trichlorobenzene	ND		10.0	11.6		ug/L		116	60 - 140	3	20
1,2,3-Trichloropropane	ND	F1	10.0	12.8		ug/L		128	60 - 130	3	30
1,2,4-Trichlorobenzene	ND		10.0	11.4		ug/L		114	60 - 140	2	20
1,2,4-Trimethylbenzene	ND		10.0	10.4		ug/L		104	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		10.0	12.7		ug/L		127	48 - 140	7	30
1,2-Dibromoethane (EDB)	ND		10.0	10.9		ug/L		109	70 - 131	3	25
1,2-Dichlorobenzene	ND		10.0	10.5		ug/L		105	70 - 130	3	20
1,2-Dichloroethane	ND		10.0	10.2		ug/L		102	56 - 146	3	20
1,2-Dichloropropane	ND		10.0	9.42		ug/L		94	69 - 130	4	20
1,3,5-Trimethylbenzene	ND		10.0	9.97		ug/L		100	70 - 130	4	20
1,3-Dichlorobenzene	ND		10.0	10.4		ug/L		104	70 - 130	0	20
1,3-Dichloropropane	ND		10.0	10.4		ug/L		104	70 - 130	5	25
1,4-Dichlorobenzene	ND		10.0	9.88		ug/L		99	70 - 130	3	20
2,2-Dichloropropane	ND		10.0	8.76		ug/L		88	69 - 138	8	25
2-Chlorotoluene	ND		10.0	9.75		ug/L		98	70 - 130	0	20
4-Chlorotoluene	ND		10.0	10.2		ug/L		102	70 - 130	2	20
Acetone	ND		50.0	44.9		ug/L		90	10 - 150	12	35
Benzene	ND		10.0	8.76		ug/L		88	66 - 130	6	20
Bromobenzene	ND		10.0	9.70		ug/L		97	70 - 130	1	20
Bromochloromethane	ND		10.0	10.3		ug/L		103	70 - 130	7	25
Bromodichloromethane	ND		10.0	9.82		ug/L		98	70 - 138	4	20
Bromoform	ND		10.0	11.6		ug/L		116	59 - 150	5	25
Bromomethane	ND		10.0	8.07		ug/L		81	62 - 131	6	25
Carbon tetrachloride	ND		10.0	9.18		ug/L		92	60 - 150	9	25
Chlorobenzene	ND		10.0	9.32		ug/L		93	70 - 130	3	20
Chloroethane	ND		10.0	7.80		ug/L		78	68 - 130	5	25
Chloroform	ND		10.0	9.41		ug/L		94	70 - 130	5	20
Chloromethane	ND		10.0	7.12		ug/L		71	39 - 144	7	25
cis-1,2-Dichloroethene	ND		10.0	9.20		ug/L		92	70 - 130	5	20
cis-1,3-Dichloropropene	ND		10.0	9.85		ug/L		99	70 - 133	7	20
Dibromochloromethane	ND		10.0	11.2		ug/L		112	70 - 148	6	25
Dibromomethane	ND		10.0	10.5		ug/L		105	70 - 130	1	25
Dichlorodifluoromethane	ND		10.0	6.66		ug/L		67	25 - 142	8	30
Ethylbenzene	ND		10.0	9.42		ug/L		94	70 - 130	5	20
Hexachlorobutadiene	ND		10.0	10.2		ug/L		102	10 - 150	3	20
Isopropylbenzene	ND		10.0	10.0		ug/L		100	70 - 132	4	20
m,p-Xylene	ND		10.0	9.61		ug/L		96	70 - 133	5	25
Methylene Chloride	ND		10.0	9.17		ug/L		92	52 - 130	5	20
Methyl-t-Butyl Ether (MTBE)	4.5		10.0	15.7		ug/L		112	70 - 130	2	25
Naphthalene	ND		10.0	12.3		ug/L		123	60 - 140	2	30
n-Butylbenzene	ND		10.0	10.4		ug/L		104	61 - 149	3	20
N-Propylbenzene	ND		10.0	9.88		ug/L		99	66 - 135	2	20

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248319-A-1 MSD

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits			
o-Xylene	ND		10.0	10.2		ug/L		102	70 - 133	2	20	
p-Isopropyltoluene	ND		10.0	10.1		ug/L		101	70 - 130	2	20	
sec-Butylbenzene	ND		10.0	10.2		ug/L		102	67 - 134	3	20	
Styrene	ND		10.0	9.83		ug/L		98	29 - 150	5	35	
tert-Butylbenzene	ND		10.0	9.93		ug/L		99	70 - 130	1	20	
Tetrachloroethene	ND		10.0	9.37		ug/L		94	70 - 137	6	20	
Toluene	ND		10.0	8.85		ug/L		89	70 - 130	4	20	
trans-1,2-Dichloroethene	ND		10.0	8.86		ug/L		89	70 - 130	3	20	
trans-1,3-Dichloropropene	ND		10.0	10.7		ug/L		107	70 - 138	3	25	
Trichloroethene	0.34	J	10.0	9.42		ug/L		91	70 - 130	2	20	
Trichlorofluoromethane	ND		10.0	8.39		ug/L		84	60 - 150	10	25	
Vinyl chloride	ND		10.0	7.61		ug/L		76	50 - 137	6	30	
Surrogate		MSD	MSD									
		%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	118			70 - 130								
4-Bromofluorobenzene (Surr)	99			80 - 120								
Dibromofluoromethane (Surr)	107			76 - 132								
Toluene-d8 (Surr)	96			80 - 128								

Lab Sample ID: MB 440-565761/4

Matrix: Water

Analysis Batch: 565761

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Isopropyl alcohol	ND		250	180	ug/L			08/27/19 20:44	1
Tentatively Identified Compound									
1,3,5-Trichlorobenzene									
1.05									
4-Bromofluorobenzene (Surr)									
None									
Dibromofluoromethane (Surr)									
Toluene-d8 (Surr)									
100									
Surrogate									
1,2-Dichloroethane-d4 (Surr)									
93									
4-Bromofluorobenzene (Surr)									
94									
Dibromofluoromethane (Surr)									
97									
Toluene-d8 (Surr)									
100									

Lab Sample ID: LCS 440-565761/1003

Matrix: Water

Analysis Batch: 565761

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike			Unit	D	%Rec	Limits
	Added	Result	Qualifier				
Isopropyl alcohol	250	264		ug/L		105	49 - 142
Surrogate							
1,2-Dichloroethane-d4 (Surr)							
90							
4-Bromofluorobenzene (Surr)							
97							
Dibromofluoromethane (Surr)							
100							

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-565761/1003

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 565761

Surrogate	LCS	LCS
	%Recovery	Qualifier
		Limits
Toluene-d8 (Surr)	100	80 - 128

Lab Sample ID: 440-248097-A-1 MS

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 565761

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit ug/L	D	%Rec.	Limits
Isopropyl alcohol	ND		250	256				103	46 - 142

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		70 - 130
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	99		76 - 132
Toluene-d8 (Surr)	97		80 - 128

Lab Sample ID: 440-248097-A-1 MSD

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Matrix: Water

Analysis Batch: 565761

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit ug/L	D	%Rec.	RPD
Isopropyl alcohol	ND		250	232	J			93	46 - 142

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 130
4-Bromofluorobenzene (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	97		76 - 132
Toluene-d8 (Surr)	99		80 - 128

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-564280/1-A

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 564280

Matrix: Water

Analysis Batch: 564521

Analyte	MB Result	MB Qualifier	RL	MDL	Unit ug/L	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	0.10			08/20/19 10:01	08/21/19 08:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits
1,4-Dioxane-d8 (Surr)	67		27 - 120

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 564280

Lab Sample ID: LCS 440-564280/2-A

Matrix: Water

Analysis Batch: 564521

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit ug/L	D	%Rec.	Limits
1,4-Dioxane	2.00	1.19				59	36 - 120

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Job ID: 440-248234-1

Project/Site: Omega Chem.-2019 Semi-Ann. GWM

SDG: Omega Chemical

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 440-564280/2-A

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 564521

Prep Batch: 564280

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
1,4-Dioxane-d8 (Surr)			57		27 - 120

Lab Sample ID: LCSD 440-564280/3-A

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 564521

Prep Batch: 564280

Analyte		Spike	LCSD	LCSD	%Rec.	RPD
		Added	Result	Qualifier	Unit	
1,4-Dioxane		2.00	1.08		ug/L	D
Surrogate		51			54	36 - 120

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
1,4-Dioxane-d8 (Surr)			51		27 - 120

QC Association Summary

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
 SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 564140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248234-1	OC_GW_OW-1B_20190816	Total/NA	Water	8260B	
440-248234-2	OC_GW_OW-3B_20190816	Total/NA	Water	8260B	
440-248234-3	OC_GW_OW-12_20190816	Total/NA	Water	8260B	
440-248234-3 - DL	OC_GW_OW-12_20190816	Total/NA	Water	8260B	
440-248234-4	OC_TB1_20190816	Total/NA	Water	8260B	
440-248234-5	OC_GW_OW-3B_20190816K	Total/NA	Water	8260B	
MB 440-564140/4	Method Blank	Total/NA	Water	8260B	
LCS 440-564140/1003	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-564140/5	Lab Control Sample	Total/NA	Water	8260B	
440-248319-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-248319-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 565761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248234-1 - RA	OC_GW_OW-1B_20190816	Total/NA	Water	8260B	
440-248234-2 - RA	OC_GW_OW-3B_20190816	Total/NA	Water	8260B	
440-248234-3 - RA	OC_GW_OW-12_20190816	Total/NA	Water	8260B	
440-248234-4 - RA	OC_TB1_20190816	Total/NA	Water	8260B	
440-248234-5 - RA	OC_GW_OW-3B_20190816K	Total/NA	Water	8260B	
MB 440-565761/4	Method Blank	Total/NA	Water	8260B	
LCS 440-565761/1003	Lab Control Sample	Total/NA	Water	8260B	
440-248097-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-248097-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 564280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248234-1	OC_GW_OW-1B_20190816	Total/NA	Water	3520C	
440-248234-2	OC_GW_OW-3B_20190816	Total/NA	Water	3520C	
440-248234-3	OC_GW_OW-12_20190816	Total/NA	Water	3520C	
440-248234-5	OC_GW_OW-3B_20190816K	Total/NA	Water	3520C	
MB 440-564280/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-564280/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-564280/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 564521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248234-1	OC_GW_OW-1B_20190816	Total/NA	Water	8270C SIM	564280
440-248234-2	OC_GW_OW-3B_20190816	Total/NA	Water	8270C SIM	564280
440-248234-3	OC_GW_OW-12_20190816	Total/NA	Water	8270C SIM	564280
440-248234-5	OC_GW_OW-3B_20190816K	Total/NA	Water	8270C SIM	564280
MB 440-564280/1-A	Method Blank	Total/NA	Water	8270C SIM	564280
LCS 440-564280/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	564280
LCSD 440-564280/3-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	564280

Definitions/Glossary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
SDG: Omega Chemical

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

Glossary

Abbreviation

These commonly used abbreviations may or may not be present in this report.

□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem.-2019 Semi-Ann. GWM

Job ID: 440-248234-1
SDG: Omega Chemical

Laboratory: Eurofins TestAmerica, Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State Program	CA ELAP 2706	06-30-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine

17481 Dorian Ave
Suite 100
Irvine, CA 92614
phone 848.261.1022 fax

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: DW NPDES RCRA Other:

Project Manager: Trent Henderson

Tel/Fax: (949) 453-1045 / (949) 453-1047

Analysis Turnaround Time

CALENDAR DAYS

WORKING DAYS

TAT if different from Below STD

2 weeks

1 week

2 days

1 day

Site Contact: Khalid Azhar

Lab Contact: Danielle Roberts

Date: 8/16/19

Carrier:

COC No.:

1 of 2 COCs

For Lab Use Only:

Walk-in Client

Lab Sampling:

Job SDG No.

Sample Specific Notes:

EPA 8270C - 1A Dioxane

EPA 8260B - VOCs + Freons

Perfom MS / MSD (Y/N)

Preferred Sample (Y/N)

Sample Type (e.g.,
Grab, Grav, Matrix,

of Cont.

Sample Date

Sample Time

Sample (e.g.,
Grab, Grav, Matrix,

of Cont.

Sample Identification

OC_GW_OW-1_201908

8/1/2019

Grab

GW

5

x

OC_GW_OW-1B_201908

8/1/2019

Grab

GW

5

x

OC_GW_OW-2_201908

8/1/2019

Grab

GW

5

x

OC_GW_OW-3_201908

8/1/2019

Grab

GW

5

x

OC_GW_OW-3B_201908

8/1/2019

Grab

GW

5

x

OC_GW_OW-7_201908

8/1/2019

Grab

GW

5

x

OC_GW_OW-8_201908

8/1/2019

Grab

GW

5

x

OC_GW_OW-8B_201908

8/1/2019

Grab

GW

5

x

OC_GW_OW-9_201908

8/1/2019

Grab

GW

5

x

OC_GW_OW-10_201908

8/1/2019

Grab

GW

5

x

OC_GW_OW-12_201908

8/1/2019

Grab

GW

5

x

OC_TB_I_20190811b

8/1/2019

Grab

H2O

2

x

Preservation Used: *= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard identification:

Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the

Comments Section if the lab is to dispose of the sample.

Non-Hazard

Flammable

Skin Irritant

Poison B

Unknown

Return to Client

Disposal by Lab

Archive for _____ Months

Comments Section if the lab is to dispose of the sample.

Non-Hazard

Flammable

Skin Irritant

Poison B

Unknown

Comments Section if the lab is to dispose of the sample.

Non-Hazard

Flammable

Skin Irritant

Poison B

Unknown

Comments Section if the lab is to dispose of the sample.

Non-Hazard

Flammable

Skin Irritant

Poison B

Unknown

Comments Section if the lab is to dispose of the sample.

Non-Hazard

Flammable

Skin Irritant

Poison B

Unknown

Comments Section if the lab is to dispose of the sample.

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Non-Hazard

Flammable

Skin Irritant

Poison B

Unknown

Comments Section if the lab is to dispose of the sample.

<input

TestAmerica Irvine
17461 Dorian Ave
Suite 100
Irvine, CA 92614
phone 949.281.1022 fax

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Other:

COC No:

COCs

Sampler:

For Lab Use Only:

Walk-in Client

Lab Sampling:

Job / SDG No..

Sample Specific Notes:

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-248234-1

SDG Number: Omega Chemical

Login Number: 248234

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Environment Testing
TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-248383-1

Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

For:

Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson

Danielle Roberts

Authorized for release by:
8/30/2019 4:27:14 PM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@testamericainc.com

LINKS

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The
Expert

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID	
440-248383-1	OC_GW_PZ-9_20190820	Water	08/20/19 08:15	08/20/19 18:18		1
440-248383-2	OC_GW_OW-13B_20190819	Water	08/19/19 11:35	08/20/19 18:18		2
440-248383-3	OC_GW_OW-13B_20190819K	Water	08/19/19 11:40	08/20/19 18:18		3
440-248383-4	OC_GW_OW-13B_20190819N	Water	08/19/19 12:50	08/20/19 18:18		4

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Case Narrative

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1
SDG: Omega Chemical

Job ID: 440-248383-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-248383-1

Comments

No additional comments.

Receipt

The samples were received on 8/20/2019 6:18 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1° C.

GC/MS VOA

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-564478 recovered above the upper control limit for Isopropyl alcohol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: OC_GW_PZ-9_20190820 (440-248383-1), OC_GW_OW-13B_20190819 (440-248383-2), OC_GW_OW-13B_20190819K (440-248383-3), OC_GW_OW-13B_20190819N (440-248383-4) and (CCV 440-564478/3).

Method(s) 8260B: The method blank for analytical batch 440-564478 contained Toluene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Method(s) 3520C: The following sample was diluted due to the nature of the sample matrix: OC_GW_PZ-9_20190820 (440-248383-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Client Sample ID: OC_GW_PZ-9_20190820

Lab Sample ID: 440-248383-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	45		5.0	0.50	ug/L	1		8260B	Total/NA
1,1,2-Trichloroethane	0.52	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.83	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	31		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	7.8		1.0	0.25	ug/L	1		8260B	Total/NA
Chloroform	26		1.0	0.25	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	0.31	J	1.0	0.25	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.28	J	1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	19		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	14		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethylene - DL	230		5.0	1.3	ug/L	5		8260B	Total/NA
1,4-Dioxane	240		2.0	0.40	ug/L	2		8270C SIM	Total/NA

Client Sample ID: OC_GW_OW-13B_20190819

Lab Sample ID: 440-248383-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethylene	21		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.30	J	0.49	0.098	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_OW-13B_20190819K

Lab Sample ID: 440-248383-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethylene	20		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.14	J	0.49	0.099	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_OW-13B_20190819N

Lab Sample ID: 440-248383-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	31		10	10	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Client Sample ID: OC_GW_PZ-9_20190820

Lab Sample ID: 440-248383-1

Matrix: Water

Date Collected: 08/20/19 08:15

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/21/19 12:13	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/21/19 12:13	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/21/19 12:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	45		5.0	0.50	ug/L			08/21/19 12:13	1
1,1,2-Trichloroethane	0.52 J		1.0	0.25	ug/L			08/21/19 12:13	1
1,1-Dichloroethane	0.83 J		1.0	0.25	ug/L			08/21/19 12:13	1
1,1-Dichloroethene	31		1.0	0.25	ug/L			08/21/19 12:13	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/21/19 12:13	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/21/19 12:13	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/21/19 12:13	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/21/19 12:13	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/21/19 12:13	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
1,2-Dichloroethane	7.8		1.0	0.25	ug/L			08/21/19 12:13	1
1,2-Dichloropropene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/21/19 12:13	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/21/19 12:13	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
Acetone	ND		10	10	ug/L			08/21/19 12:13	1
Benzene	ND		0.50	0.25	ug/L			08/21/19 12:13	1
Bromobenzene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/21/19 12:13	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/21/19 12:13	1
Bromoform	ND		1.0	0.40	ug/L			08/21/19 12:13	1
Bromomethane	ND		1.0	0.25	ug/L			08/21/19 12:13	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/21/19 12:13	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
Chloroethane	ND		1.0	0.40	ug/L			08/21/19 12:13	1
Chloroform	26		1.0	0.25	ug/L			08/21/19 12:13	1
Chloromethane	ND		1.0	0.25	ug/L			08/21/19 12:13	1
cis-1,2-Dichloroethene	0.31 J		1.0	0.25	ug/L			08/21/19 12:13	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/21/19 12:13	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/21/19 12:13	1
Dibromomethane	ND		1.0	0.25	ug/L			08/21/19 12:13	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/21/19 12:13	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
Isopropyl alcohol	ND		250	180	ug/L			08/21/19 12:13	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/21/19 12:13	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/21/19 12:13	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/21/19 12:13	1
Naphthalene	ND		1.0	0.40	ug/L			08/21/19 12:13	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Client Sample ID: OC_GW_PZ-9_20190820

Lab Sample ID: 440-248383-1

Matrix: Water

Date Collected: 08/20/19 08:15

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.40	ug/L			08/21/19 12:13	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
o-Xylene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
Styrene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
Toluene	ND		1.0	0.25	ug/L			08/21/19 12:13	1
trans-1,2-Dichloroethene	0.28	J	1.0	0.25	ug/L			08/21/19 12:13	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/21/19 12:13	1
Trichloroethene	19		1.0	0.25	ug/L			08/21/19 12:13	1
Trichlorofluoromethane	14		1.0	0.25	ug/L			08/21/19 12:13	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/21/19 12:13	1

Tentatively Identified Compound

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/21/19 12:13	1

Surrogate

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		70 - 130		08/21/19 12:13	1
4-Bromofluorobenzene (Surr)	100		80 - 120		08/21/19 12:13	1
Dibromofluoromethane (Surr)	105		76 - 132		08/21/19 12:13	1
Toluene-d8 (Surr)	101		80 - 128		08/21/19 12:13	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	230		5.0	1.3	ug/L			08/21/19 11:43	5
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/21/19 11:43	5
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	119		70 - 130		08/21/19 11:43	5			
4-Bromofluorobenzene (Surr)	100		80 - 120		08/21/19 11:43	5			
Dibromofluoromethane (Surr)	107		76 - 132		08/21/19 11:43	5			
Toluene-d8 (Surr)	100		80 - 128		08/21/19 11:43	5			

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	240		2.0	0.40	ug/L			08/22/19 10:30	08/23/19 20:19
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,4-Dioxane-d8 (Surr)	53		27 - 120		08/22/19 10:30	08/23/19 20:19			

Client Sample ID: OC_GW_OW-13B_20190819

Lab Sample ID: 440-248383-2

Matrix: Water

Date Collected: 08/19/19 11:35

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/21/19 12:43	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/21/19 12:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/21/19 12:43	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-13B_20190819

Lab Sample ID: 440-248383-2

Matrix: Water

Date Collected: 08/19/19 11:35

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L		08/21/19 12:43		1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L		08/21/19 12:43		1
1,1-Dichloroethane	ND		1.0	0.25	ug/L		08/21/19 12:43		1
1,1-Dichloroethene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
1,1-Dichloropropene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L		08/21/19 12:43		1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L		08/21/19 12:43		1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L		08/21/19 12:43		1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L		08/21/19 12:43		1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L		08/21/19 12:43		1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
1,2-Dichloroethane	ND		1.0	0.25	ug/L		08/21/19 12:43		1
1,2-Dichloropropane	ND		1.0	0.25	ug/L		08/21/19 12:43		1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
1,3-Dichloropropane	ND		1.0	0.25	ug/L		08/21/19 12:43		1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
2,2-Dichloropropane	ND		1.0	0.40	ug/L		08/21/19 12:43		1
2-Chlorotoluene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
4-Chlorotoluene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
Acetone	ND		10	10	ug/L		08/21/19 12:43		1
Benzene	ND		0.50	0.25	ug/L		08/21/19 12:43		1
Bromobenzene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
Bromochloromethane	ND		1.0	0.25	ug/L		08/21/19 12:43		1
Bromodichloromethane	ND		1.0	0.25	ug/L		08/21/19 12:43		1
Bromoform	ND		1.0	0.40	ug/L		08/21/19 12:43		1
Bromomethane	ND		1.0	0.25	ug/L		08/21/19 12:43		1
Carbon tetrachloride	ND		0.50	0.25	ug/L		08/21/19 12:43		1
Chlorobenzene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
Chloroethane	ND		1.0	0.40	ug/L		08/21/19 12:43		1
Chloroform	ND		1.0	0.25	ug/L		08/21/19 12:43		1
Chloromethane	ND		1.0	0.25	ug/L		08/21/19 12:43		1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L		08/21/19 12:43		1
Dibromochloromethane	ND		1.0	0.25	ug/L		08/21/19 12:43		1
Dibromomethane	ND		1.0	0.25	ug/L		08/21/19 12:43		1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L		08/21/19 12:43		1
Ethylbenzene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
Hexachlorobutadiene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
Isopropyl alcohol	ND		250	180	ug/L		08/21/19 12:43		1
Isopropylbenzene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
m,p-Xylene	ND		1.0	0.50	ug/L		08/21/19 12:43		1
Methylene Chloride	ND		5.0	0.88	ug/L		08/21/19 12:43		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L		08/21/19 12:43		1
Naphthalene	ND		1.0	0.40	ug/L		08/21/19 12:43		1
n-Butylbenzene	ND		1.0	0.40	ug/L		08/21/19 12:43		1
N-Propylbenzene	ND		1.0	0.25	ug/L		08/21/19 12:43		1
o-Xylene	ND		1.0	0.25	ug/L		08/21/19 12:43		1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-13B_20190819

Lab Sample ID: 440-248383-2

Matrix: Water

Date Collected: 08/19/19 11:35

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/21/19 12:43	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/21/19 12:43	1
Styrene	ND		1.0	0.25	ug/L			08/21/19 12:43	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/21/19 12:43	1
Tetrachloroethene	21		1.0	0.25	ug/L			08/21/19 12:43	1
Toluene	ND		1.0	0.25	ug/L			08/21/19 12:43	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/21/19 12:43	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/21/19 12:43	1
Trichloroethene	ND		1.0	0.25	ug/L			08/21/19 12:43	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/21/19 12:43	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/21/19 12:43	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/21/19 12:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	119		70 - 130					08/21/19 12:43	1
4-Bromofluorobenzene (Surr)	96		80 - 120					08/21/19 12:43	1
Dibromofluoromethane (Surr)	110		76 - 132					08/21/19 12:43	1
Toluene-d8 (Surr)	100		80 - 128					08/21/19 12:43	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.30	J	0.49	0.098	ug/L		08/22/19 10:30	08/23/19 14:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	39		27 - 120				08/22/19 10:30	08/23/19 14:10	1

Client Sample ID: OC_GW_OW-13B_20190819K

Lab Sample ID: 440-248383-3

Matrix: Water

Date Collected: 08/19/19 11:40

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/21/19 13:12	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/21/19 13:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/21/19 13:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/21/19 13:12	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/21/19 13:12	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/21/19 13:12	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/21/19 13:12	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/21/19 13:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/21/19 13:12	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/21/19 13:12	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/21/19 13:12	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/21/19 13:12	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/21/19 13:12	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-13B_20190819K

Lab Sample ID: 440-248383-3

Matrix: Water

Date Collected: 08/19/19 11:40

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/21/19 13:12	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/21/19 13:12	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Acetone	ND		10	10	ug/L			08/21/19 13:12	1
Benzene	ND		0.50	0.25	ug/L			08/21/19 13:12	1
Bromobenzene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Bromoform	ND		1.0	0.40	ug/L			08/21/19 13:12	1
Bromomethane	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/21/19 13:12	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Chloroethane	ND		1.0	0.40	ug/L			08/21/19 13:12	1
Chloroform	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Chloromethane	ND		1.0	0.25	ug/L			08/21/19 13:12	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/21/19 13:12	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Dibromomethane	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/21/19 13:12	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Isopropyl alcohol	ND		250	180	ug/L			08/21/19 13:12	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/21/19 13:12	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/21/19 13:12	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Naphthalene	ND		1.0	0.40	ug/L			08/21/19 13:12	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/21/19 13:12	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
o-Xylene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Styrene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Tetrachloroethene	20		1.0	0.25	ug/L			08/21/19 13:12	1
Toluene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/21/19 13:12	1
Trichloroethene	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/21/19 13:12	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/21/19 13:12	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/21/19 13:12	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-13B_20190819K

Lab Sample ID: 440-248383-3

Matrix: Water

Date Collected: 08/19/19 11:40

Date Received: 08/20/19 18:18

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	122		70 - 130		08/21/19 13:12	1
4-Bromofluorobenzene (Surr)	99		80 - 120		08/21/19 13:12	1
Dibromofluoromethane (Surr)	110		76 - 132		08/21/19 13:12	1
Toluene-d8 (Surr)	100		80 - 128		08/21/19 13:12	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.14	J	0.49	0.099	ug/L	D	08/22/19 10:30	08/23/19 14:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	64		27 - 120				08/22/19 10:30	08/23/19 14:32	1

Client Sample ID: OC_GW_OW-13B_20190819N

Lab Sample ID: 440-248383-4

Matrix: Water

Date Collected: 08/19/19 12:50

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L		08/21/19 13:42		1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L		08/21/19 13:42		1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L		08/21/19 13:42		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L		08/21/19 13:42		1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L		08/21/19 13:42		1
1,1-Dichloroethane	ND		1.0	0.25	ug/L		08/21/19 13:42		1
1,1-Dichloroethene	ND		1.0	0.25	ug/L		08/21/19 13:42		1
1,1-Dichloropropene	ND		1.0	0.25	ug/L		08/21/19 13:42		1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L		08/21/19 13:42		1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L		08/21/19 13:42		1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L		08/21/19 13:42		1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L		08/21/19 13:42		1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L		08/21/19 13:42		1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L		08/21/19 13:42		1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L		08/21/19 13:42		1
1,2-Dichloroethane	ND		1.0	0.25	ug/L		08/21/19 13:42		1
1,2-Dichloropropane	ND		1.0	0.25	ug/L		08/21/19 13:42		1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L		08/21/19 13:42		1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L		08/21/19 13:42		1
1,3-Dichloropropane	ND		1.0	0.25	ug/L		08/21/19 13:42		1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L		08/21/19 13:42		1
2,2-Dichloropropane	ND		1.0	0.40	ug/L		08/21/19 13:42		1
2-Chlorotoluene	ND		1.0	0.25	ug/L		08/21/19 13:42		1
4-Chlorotoluene	ND		1.0	0.25	ug/L		08/21/19 13:42		1
Acetone	31		10	10	ug/L		08/21/19 13:42		1
Benzene	ND		0.50	0.25	ug/L		08/21/19 13:42		1
Bromobenzene	ND		1.0	0.25	ug/L		08/21/19 13:42		1
Bromochloromethane	ND		1.0	0.25	ug/L		08/21/19 13:42		1
Bromodichloromethane	ND		1.0	0.25	ug/L		08/21/19 13:42		1
Bromoform	ND		1.0	0.40	ug/L		08/21/19 13:42		1
Bromomethane	ND		1.0	0.25	ug/L		08/21/19 13:42		1
Carbon tetrachloride	ND		0.50	0.25	ug/L		08/21/19 13:42		1
Chlorobenzene	ND		1.0	0.25	ug/L		08/21/19 13:42		1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-13B_20190819N

Lab Sample ID: 440-248383-4

Matrix: Water

Date Collected: 08/19/19 12:50

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		1.0	0.40	ug/L			08/21/19 13:42	1
Chloroform	ND		1.0	0.25	ug/L			08/21/19 13:42	1
Chloromethane	ND		1.0	0.25	ug/L			08/21/19 13:42	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/21/19 13:42	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/21/19 13:42	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/21/19 13:42	1
Dibromomethane	ND		1.0	0.25	ug/L			08/21/19 13:42	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/21/19 13:42	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/21/19 13:42	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/21/19 13:42	1
Isopropyl alcohol	ND		250	180	ug/L			08/21/19 13:42	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/21/19 13:42	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/21/19 13:42	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/21/19 13:42	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/21/19 13:42	1
Naphthalene	ND		1.0	0.40	ug/L			08/21/19 13:42	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/21/19 13:42	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/21/19 13:42	1
o-Xylene	ND		1.0	0.25	ug/L			08/21/19 13:42	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/21/19 13:42	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/21/19 13:42	1
Styrene	ND		1.0	0.25	ug/L			08/21/19 13:42	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/21/19 13:42	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/21/19 13:42	1
Toluene	ND		1.0	0.25	ug/L			08/21/19 13:42	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/21/19 13:42	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/21/19 13:42	1
Trichloroethene	ND		1.0	0.25	ug/L			08/21/19 13:42	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/21/19 13:42	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/21/19 13:42	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	4.0	T J	ug/L		1.82			08/21/19 13:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		70 - 130			1
4-Bromofluorobenzene (Surr)	99		80 - 120			1
Dibromofluoromethane (Surr)	102		76 - 132			1
Toluene-d8 (Surr)	105		80 - 128			1

Eurofins TestAmerica, Irvine

Surrogate Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-248383-1 - DL	OC_GW_PZ-9_20190820	119	100	107	100
440-248383-1	OC_GW_PZ-9_20190820	117	100	105	101
440-248383-1 MS	OC_GW_PZ-9_20190820	112	98	100	96
440-248383-1 MSD	OC_GW_PZ-9_20190820	113	100	100	91
440-248383-2	OC_GW_OW-13B_20190819	119	96	110	100
440-248383-3	OC_GW_OW-13B_20190819K	122	99	110	100
440-248383-4	OC_GW_OW-13B_20190819N	115	99	102	105
LCS 440-564478/1003	Lab Control Sample	111	96	99	99
LCS 440-564478/6	Lab Control Sample	113	99	98	100
MB 440-564478/5	Method Blank	117	98	107	103

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DXE (27-120)			
440-248383-1	OC_GW_PZ-9_20190820	53			
440-248383-2	OC_GW_OW-13B_20190819	39			
440-248383-3	OC_GW_OW-13B_20190819K	64			
440-248432-J-4-A MSD	Matrix Spike Duplicate	58			
440-248432-K-4-A MS	Matrix Spike	68			
LCS 440-564850/2-A	Lab Control Sample	36			
MB 440-564850/1-A	Method Blank	34			

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

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Lab Chronicle

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Client Sample ID: OC_GW_PZ-9_20190820

Lab Sample ID: 440-248383-1

Matrix: Water

Date Collected: 08/20/19 08:15

Date Received: 08/20/19 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	DL	5	10 mL	10 mL	564478	08/21/19 11:43	DCI	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	564478	08/21/19 12:13	DCI	TAL IRV
Total/NA	Prep	3520C			500 mL	1.0 mL	564850	08/22/19 10:30	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		2			565069	08/23/19 20:19	HN	TAL IRV

Client Sample ID: OC_GW_OW-13B_20190819

Lab Sample ID: 440-248383-2

Matrix: Water

Date Collected: 08/19/19 11:35

Date Received: 08/20/19 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	564478	08/21/19 12:43	DCI	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	564850	08/22/19 10:30	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			565069	08/23/19 14:10	HN	TAL IRV

Client Sample ID: OC_GW_OW-13B_20190819K

Lab Sample ID: 440-248383-3

Matrix: Water

Date Collected: 08/19/19 11:40

Date Received: 08/20/19 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	564478	08/21/19 13:12	DCI	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	564850	08/22/19 10:30	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			565069	08/23/19 14:32	HN	TAL IRV

Client Sample ID: OC_GW_OW-13B_20190819N

Lab Sample ID: 440-248383-4

Matrix: Water

Date Collected: 08/19/19 12:50

Date Received: 08/20/19 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	564478	08/21/19 13:42	DCI	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-564478/5

Matrix: Water

Analysis Batch: 564478

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/21/19 09:15	1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L			08/21/19 09:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/21/19 09:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/21/19 09:15	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/21/19 09:15	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/21/19 09:15	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/21/19 09:15	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/21/19 09:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/21/19 09:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/21/19 09:15	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/21/19 09:15	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/21/19 09:15	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/21/19 09:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/21/19 09:15	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/21/19 09:15	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Acetone	ND		10	10	ug/L			08/21/19 09:15	1
Benzene	ND		0.50	0.25	ug/L			08/21/19 09:15	1
Bromobenzene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Bromoform	ND		1.0	0.40	ug/L			08/21/19 09:15	1
Bromomethane	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Carbon tetrachloride	ND		0.50	0.25	ug/L			08/21/19 09:15	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Chloroethane	ND		1.0	0.40	ug/L			08/21/19 09:15	1
Chloroform	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Chloromethane	ND		1.0	0.25	ug/L			08/21/19 09:15	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/21/19 09:15	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Dibromomethane	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/21/19 09:15	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Isopropyl alcohol	ND		250	180	ug/L			08/21/19 09:15	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/21/19 09:15	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/21/19 09:15	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/21/19 09:15	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-564478/5

Matrix: Water

Analysis Batch: 564478

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		1.0	0.40	ug/L			08/21/19 09:15	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/21/19 09:15	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
o-Xylene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Styrene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Toluene	0.480	J	1.0	0.25	ug/L			08/21/19 09:15	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/21/19 09:15	1
Trichloroethene	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/21/19 09:15	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/21/19 09:15	1
Tentatively Identified Compound	MB Est. Result	MB Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/21/19 09:15	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		70 - 130					08/21/19 09:15	1
4-Bromofluorobenzene (Surr)	98		80 - 120					08/21/19 09:15	1
Dibromofluoromethane (Surr)	107		76 - 132					08/21/19 09:15	1
Toluene-d8 (Surr)	103		80 - 128					08/21/19 09:15	1

Lab Sample ID: LCS 440-564478/1003

Matrix: Water

Analysis Batch: 564478

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol		250	354		ug/L		142	49 - 142
Surrogate								
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QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-564478/6

Matrix: Water

Analysis Batch: 564478

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1,2-Trichloroethane	10.0	10.8		ug/L		108	70 - 130
1,1-Dichloroethane	10.0	8.99		ug/L		90	64 - 130
1,1-Dichloroethene	10.0	8.49		ug/L		85	70 - 130
1,1-Dichloropropene	10.0	8.62		ug/L		86	70 - 130
1,2,3-Trichlorobenzene	10.0	10.4		ug/L		104	60 - 140
1,2,3-Trichloropropane	10.0	11.7		ug/L		117	63 - 130
1,2,4-Trichlorobenzene	10.0	9.68		ug/L		97	60 - 140
1,2,4-Trimethylbenzene	10.0	10.1		ug/L		101	70 - 135
1,2-Dibromo-3-Chloropropane	10.0	11.3		ug/L		113	52 - 140
1,2-Dibromoethane (EDB)	10.0	11.5		ug/L		115	70 - 130
1,2-Dichlorobenzene	10.0	10.1		ug/L		101	70 - 130
1,2-Dichloroethane	10.0	10.3		ug/L		103	57 - 138
1,2-Dichloropropane	10.0	9.73		ug/L		97	67 - 130
1,3,5-Trimethylbenzene	10.0	10.1		ug/L		101	70 - 136
1,3-Dichlorobenzene	10.0	10.1		ug/L		101	70 - 130
1,3-Dichloropropane	10.0	10.8		ug/L		108	70 - 130
1,4-Dichlorobenzene	10.0	9.35		ug/L		94	70 - 130
2,2-Dichloropropane	10.0	8.65		ug/L		87	68 - 141
2-Chlorotoluene	10.0	9.63		ug/L		96	70 - 130
4-Chlorotoluene	10.0	9.99		ug/L		100	70 - 130
Acetone	50.0	49.0		ug/L		98	10 - 150
Benzene	10.0	9.16		ug/L		92	68 - 130
Bromobenzene	10.0	9.83		ug/L		98	70 - 130
Bromochloromethane	10.0	10.2		ug/L		102	70 - 130
Bromodichloromethane	10.0	10.1		ug/L		101	70 - 132
Bromoform	10.0	11.1		ug/L		111	60 - 148
Bromomethane	10.0	8.35		ug/L		83	64 - 139
Carbon tetrachloride	10.0	8.91		ug/L		89	60 - 150
Chlorobenzene	10.0	9.62		ug/L		96	70 - 130
Chloroethane	10.0	7.80		ug/L		78	64 - 135
Chloroform	10.0	9.74		ug/L		97	70 - 130
Chloromethane	10.0	7.24		ug/L		72	47 - 140
cis-1,2-Dichloroethene	10.0	9.28		ug/L		93	70 - 133
cis-1,3-Dichloropropene	10.0	10.4		ug/L		104	70 - 133
Dibromochloromethane	10.0	11.0		ug/L		110	69 - 145
Dibromomethane	10.0	10.4		ug/L		104	70 - 130
Dichlorodifluoromethane	10.0	6.25		ug/L		63	29 - 150
Ethylbenzene	10.0	9.52		ug/L		95	70 - 130
Hexachlorobutadiene	10.0	9.32		ug/L		93	10 - 150
Isopropylbenzene	10.0	9.79		ug/L		98	70 - 136
m,p-Xylene	10.0	9.65		ug/L		97	70 - 130
Methylene Chloride	10.0	9.17		ug/L		92	52 - 130
Methyl-t-Butyl Ether (MTBE)	10.0	11.1		ug/L		111	63 - 131
Naphthalene	10.0	10.9		ug/L		109	60 - 140
n-Butylbenzene	10.0	9.54		ug/L		95	65 - 150
N-Propylbenzene	10.0	9.34		ug/L		93	67 - 139
o-Xylene	10.0	10.4		ug/L		104	70 - 130
p-Isopropyltoluene	10.0	9.53		ug/L		95	70 - 132
sec-Butylbenzene	10.0	9.80		ug/L		98	70 - 138

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-564478/6

Matrix: Water

Analysis Batch: 564478

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limts
Styrene	10.0	9.47		ug/L		95	70 - 134
tert-Butylbenzene	10.0	9.65		ug/L		97	70 - 130
Tetrachloroethene	10.0	9.42		ug/L		94	70 - 130
Toluene	10.0	9.57		ug/L		96	70 - 130
trans-1,2-Dichloroethene	10.0	8.48		ug/L		85	70 - 130
trans-1,3-Dichloropropene	10.0	11.0		ug/L		110	70 - 132
Trichloroethene	10.0	9.35		ug/L		94	70 - 130
Trichlorofluoromethane	10.0	8.54		ug/L		85	60 - 150
Vinyl chloride	10.0	7.44		ug/L		74	59 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	113		70 - 130
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	98		76 - 132
Toluene-d8 (Surr)	100		80 - 128

Lab Sample ID: 440-248383-1 MS

Matrix: Water

Analysis Batch: 564478

Client Sample ID: OC_GW_PZ-9_20190820
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limts
1,1,1,2-Tetrachloroethane	ND		50.0	47.4		ug/L		95	60 - 149
1,1,1-Trichloroethane	ND		50.0	46.9		ug/L		94	70 - 130
1,1,2,2-Tetrachloroethane	ND		50.0	55.6		ug/L		111	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	43		50.0	86.1		ug/L		87	60 - 140
1,1,2-Trichloroethane	ND		50.0	54.3		ug/L		109	70 - 130
1,1-Dichloroethane	ND		50.0	46.4		ug/L		93	65 - 130
1,1-Dichloroethene	30		50.0	75.4		ug/L		90	70 - 130
1,1-Dichloropropene	ND		50.0	50.4		ug/L		101	64 - 130
1,2,3-Trichlorobenzene	ND		50.0	56.3		ug/L		113	60 - 140
1,2,3-Trichloropropane	ND	F1	50.0	65.3	F1	ug/L		131	60 - 130
1,2,4-Trichlorobenzene	ND		50.0	54.6		ug/L		109	60 - 140
1,2,4-Trimethylbenzene	ND		50.0	53.5		ug/L		107	70 - 130
1,2-Dibromo-3-Chloropropane	ND		50.0	59.4		ug/L		119	48 - 140
1,2-Dibromoethane (EDB)	ND		50.0	57.1		ug/L		114	70 - 131
1,2-Dichlorobenzene	ND		50.0	52.5		ug/L		105	70 - 130
1,2-Dichloroethane	8.4		50.0	58.1		ug/L		99	56 - 146
1,2-Dichloropropane	ND		50.0	48.0		ug/L		96	69 - 130
1,3,5-Trimethylbenzene	ND		50.0	51.0		ug/L		102	70 - 130
1,3-Dichlorobenzene	ND		50.0	50.1		ug/L		100	70 - 130
1,3-Dichloropropane	ND		50.0	53.3		ug/L		107	70 - 130
1,4-Dichlorobenzene	ND		50.0	48.0		ug/L		96	70 - 130
2,2-Dichloropropane	ND		50.0	45.8		ug/L		92	69 - 138
2-Chlorotoluene	ND		50.0	47.4		ug/L		95	70 - 130
4-Chlorotoluene	ND		50.0	49.7		ug/L		99	70 - 130
Acetone	ND		250	330		ug/L		132	10 - 150
Benzene	ND		50.0	48.5		ug/L		97	66 - 130
Bromobenzene	ND		50.0	49.6		ug/L		99	70 - 130

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248383-1 MS

Matrix: Water

Analysis Batch: 564478

Client Sample ID: OC_GW_PZ-9_20190820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Bromochloromethane	ND		50.0	52.3		ug/L		105	70 - 130
Bromodichloromethane	ND		50.0	50.7		ug/L		101	70 - 138
Bromoform	ND		50.0	56.6		ug/L		113	59 - 150
Bromomethane	ND		50.0	42.9		ug/L		86	62 - 131
Carbon tetrachloride	ND		50.0	47.8		ug/L		96	60 - 150
Chlorobenzene	ND		50.0	48.2		ug/L		96	70 - 130
Chloroethane	ND		50.0	41.9		ug/L		84	68 - 130
Chloroform	27		50.0	72.5		ug/L		90	70 - 130
Chloromethane	ND		50.0	40.3		ug/L		81	39 - 144
cis-1,2-Dichloroethene	ND		50.0	50.1		ug/L		100	70 - 130
cis-1,3-Dichloropropene	ND		50.0	52.9		ug/L		106	70 - 133
Dibromochloromethane	ND		50.0	55.3		ug/L		111	70 - 148
Dibromomethane	ND		50.0	53.3		ug/L		107	70 - 130
Dichlorodifluoromethane	ND		50.0	41.7		ug/L		83	25 - 142
Ethylbenzene	ND		50.0	49.0		ug/L		98	70 - 130
Hexachlorobutadiene	ND		50.0	48.7		ug/L		97	10 - 150
Isopropyl alcohol	ND F1		1250	1880 F1		ug/L		151	46 - 142
Isopropylbenzene	ND		50.0	49.7		ug/L		99	70 - 132
m,p-Xylene	ND		50.0	51.6		ug/L		103	70 - 133
Methylene Chloride	ND		50.0	48.9		ug/L		98	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		50.0	58.1		ug/L		116	70 - 130
Naphthalene	ND		50.0	60.5		ug/L		121	60 - 140
n-Butylbenzene	ND		50.0	50.7		ug/L		101	61 - 149
N-Propylbenzene	ND		50.0	48.4		ug/L		97	66 - 135
o-Xylene	ND		50.0	52.3		ug/L		105	70 - 133
p-Isopropyltoluene	ND		50.0	48.6		ug/L		97	70 - 130
sec-Butylbenzene	ND		50.0	49.7		ug/L		99	67 - 134
Styrene	ND		50.0	51.6		ug/L		103	29 - 150
tert-Butylbenzene	ND		50.0	48.3		ug/L		97	70 - 130
Tetrachloroethene	230		50.0	272 4		ug/L		92	70 - 137
Toluene	ND		50.0	48.1		ug/L		96	70 - 130
trans-1,2-Dichloroethene	ND		50.0	44.1		ug/L		88	70 - 130
trans-1,3-Dichloropropene	ND		50.0	56.4		ug/L		113	70 - 138
Trichloroethene	18		50.0	68.2		ug/L		100	70 - 130
Trichlorofluoromethane	13		50.0	56.9		ug/L		87	60 - 150
Vinyl chloride	ND		50.0	40.5		ug/L		81	50 - 137
MS MS									
Surrogate	%Recovery	Qualifier			Limits				
1,2-Dichloroethane-d4 (Surr)	112				70 - 130				
4-Bromofluorobenzene (Surr)	98				80 - 120				
Dibromofluoromethane (Surr)	100				76 - 132				
Toluene-d8 (Surr)	96				80 - 128				

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248383-1 MSD

Matrix: Water

Analysis Batch: 564478

Client Sample ID: OC_GW_PZ-9_20190820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		50.0	46.1		ug/L		92	60 - 149	3	20
1,1,1-Trichloroethane	ND		50.0	46.3		ug/L		93	70 - 130	1	20
1,1,2,2-Tetrachloroethane	ND		50.0	54.2		ug/L		108	63 - 130	2	30
1,1,2-Trichloro-1,2,2-trifluoroethane	43		50.0	84.6		ug/L		84	60 - 140	2	20
1,1,2-Trichloroethane	ND		50.0	49.5		ug/L		99	70 - 130	9	25
1,1-Dichloroethane	ND		50.0	45.3		ug/L		91	65 - 130	3	20
1,1-Dichloroethene	30		50.0	71.5		ug/L		82	70 - 130	5	20
1,1-Dichloropropene	ND		50.0	50.6		ug/L		101	64 - 130	0	20
1,2,3-Trichlorobenzene	ND		50.0	55.9		ug/L		112	60 - 140	1	20
1,2,3-Trichloropropane	ND	F1	50.0	57.8		ug/L		116	60 - 130	12	30
1,2,4-Trichlorobenzene	ND		50.0	54.9		ug/L		110	60 - 140	1	20
1,2,4-Trimethylbenzene	ND		50.0	53.9		ug/L		108	70 - 130	1	25
1,2-Dibromo-3-Chloropropane	ND		50.0	54.1		ug/L		108	48 - 140	9	30
1,2-Dibromoethane (EDB)	ND		50.0	51.2		ug/L		102	70 - 131	11	25
1,2-Dichlorobenzene	ND		50.0	51.4		ug/L		103	70 - 130	2	20
1,2-Dichloroethane	8.4		50.0	55.4		ug/L		94	56 - 146	5	20
1,2-Dichloropropane	ND		50.0	47.6		ug/L		95	69 - 130	1	20
1,3,5-Trimethylbenzene	ND		50.0	51.6		ug/L		103	70 - 130	1	20
1,3-Dichlorobenzene	ND		50.0	51.1		ug/L		102	70 - 130	2	20
1,3-Dichloropropane	ND		50.0	47.0		ug/L		94	70 - 130	13	25
1,4-Dichlorobenzene	ND		50.0	48.2		ug/L		96	70 - 130	0	20
2,2-Dichloropropane	ND		50.0	44.8		ug/L		90	69 - 138	2	25
2-Chlorotoluene	ND		50.0	48.8		ug/L		98	70 - 130	3	20
4-Chlorotoluene	ND		50.0	52.0		ug/L		104	70 - 130	5	20
Acetone	ND		250	290		ug/L		116	10 - 150	13	35
Benzene	ND		50.0	48.1		ug/L		96	66 - 130	1	20
Bromobenzene	ND		50.0	49.4		ug/L		99	70 - 130	0	20
Bromochloromethane	ND		50.0	52.0		ug/L		104	70 - 130	1	25
Bromodichloromethane	ND		50.0	49.6		ug/L		99	70 - 138	2	20
Bromoform	ND		50.0	52.1		ug/L		104	59 - 150	8	25
Bromomethane	ND		50.0	43.9		ug/L		88	62 - 131	2	25
Carbon tetrachloride	ND		50.0	47.8		ug/L		96	60 - 150	0	25
Chlorobenzene	ND		50.0	44.4		ug/L		89	70 - 130	8	20
Chloroethane	ND		50.0	41.3		ug/L		83	68 - 130	2	25
Chloroform	27		50.0	72.0		ug/L		89	70 - 130	1	20
Chloromethane	ND		50.0	38.3		ug/L		77	39 - 144	5	25
cis-1,2-Dichloroethene	ND		50.0	51.0		ug/L		102	70 - 130	2	20
cis-1,3-Dichloropropene	ND		50.0	48.0		ug/L		96	70 - 133	10	20
Dibromochloromethane	ND		50.0	50.8		ug/L		102	70 - 148	8	25
Dibromomethane	ND		50.0	51.1		ug/L		102	70 - 130	4	25
Dichlorodifluoromethane	ND		50.0	38.2		ug/L		76	25 - 142	9	30
Ethylbenzene	ND		50.0	46.3		ug/L		93	70 - 130	6	20
Hexachlorobutadiene	ND		50.0	49.8		ug/L		100	10 - 150	2	20
Isopropyl alcohol	ND	F1	1250	2180	F1	ug/L		175	46 - 142	15	40
Isopropylbenzene	ND		50.0	46.4		ug/L		93	70 - 132	7	20
m,p-Xylene	ND		50.0	46.5		ug/L		93	70 - 133	10	25
Methylene Chloride	ND		50.0	47.8		ug/L		96	52 - 130	2	20
Methyl-t-Butyl Ether (MTBE)	ND		50.0	56.3		ug/L		113	70 - 130	3	25

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248383-1 MSD

Matrix: Water

Analysis Batch: 564478

Client Sample ID: OC_GW_PZ-9_20190820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD	RPD Limit	
Naphthalene	ND		50.0	57.8		ug/L		116	60 - 140	5	30
n-Butylbenzene	ND		50.0	52.2		ug/L		104	61 - 149	3	20
N-Propylbenzene	ND		50.0	50.8		ug/L		102	66 - 135	5	20
o-Xylene	ND		50.0	48.1		ug/L		96	70 - 133	8	20
p-Isopropyltoluene	ND		50.0	49.8		ug/L		100	70 - 130	3	20
sec-Butylbenzene	ND		50.0	51.3		ug/L		103	67 - 134	3	20
Styrene	ND		50.0	48.7		ug/L		97	29 - 150	6	35
tert-Butylbenzene	ND		50.0	50.6		ug/L		101	70 - 130	5	20
Tetrachloroethene	230		50.0	255.4		ug/L		58	70 - 137	6	20
Toluene	ND		50.0	44.3		ug/L		89	70 - 130	8	20
trans-1,2-Dichloroethene	ND		50.0	43.6		ug/L		87	70 - 130	1	20
trans-1,3-Dichloropropene	ND		50.0	53.0		ug/L		106	70 - 138	6	25
Trichloroethene	18		50.0	67.8		ug/L		99	70 - 130	1	20
Trichlorofluoromethane	13		50.0	57.0		ug/L		88	60 - 150	0	25
Vinyl chloride	ND		50.0	41.0		ug/L		82	50 - 137	1	30
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	113		70 - 130								
4-Bromofluorobenzene (Surr)	100		80 - 120								
Dibromofluoromethane (Surr)	100		76 - 132								
Toluene-d8 (Surr)	91		80 - 128								

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-564850/1-A

Matrix: Water

Analysis Batch: 565069

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 564850

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,4-Dioxane	ND		0.50	0.10	ug/L		08/22/19 10:30	08/23/19 10:35	1	
Surrogate	MB %Recovery	MB Qualifier	Limits							
1,4-Dioxane-d8 (Surr)	34		27 - 120							
			Prepared							
			08/22/19 10:30							
			Analyzed							
			08/23/19 10:35							
			Dil Fac							
			1							

Lab Sample ID: LCS 440-564850/2-A

Matrix: Water

Analysis Batch: 565069

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 564850

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits			
1,4-Dioxane	2.00	0.734		ug/L		37	36 - 120			
Surrogate	LCS %Recovery	LCS Qualifier	Limits							
1,4-Dioxane-d8 (Surr)	36		27 - 120							

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Job ID: 440-248383-1

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

SDG: Omega Chemical

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 440-248432-J-4-A MSD

Matrix: Water

Analysis Batch: 565069

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 564850

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD RPD	RPD Limit
1,4-Dioxane	110		1.97	136	4	ug/L		1246	10 - 150	14	35
Surrogate											
<i>1,4-Dioxane-d8 (Surr)</i>											
	<i>MSD</i>	<i>MSD</i>									
	<i>%Recovery</i>	<i>Qualifier</i>			<i>Limits</i>						
	58				27 - 120						

Lab Sample ID: 440-248432-K-4-A MS

Matrix: Water

Analysis Batch: 565069

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 564850

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane	110		1.96	118	4	ug/L		342	10 - 150		
Surrogate											
<i>1,4-Dioxane-d8 (Surr)</i>											
	<i>MS</i>	<i>MS</i>									
	<i>%Recovery</i>	<i>Qualifier</i>			<i>Limits</i>						
	68				27 - 120						

QC Association Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 564478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248383-1 - DL	OC_GW_PZ-9_20190820	Total/NA	Water	8260B	
440-248383-1	OC_GW_PZ-9_20190820	Total/NA	Water	8260B	
440-248383-2	OC_GW_OW-13B_20190819	Total/NA	Water	8260B	
440-248383-3	OC_GW_OW-13B_20190819K	Total/NA	Water	8260B	
440-248383-4	OC_GW_OW-13B_20190819N	Total/NA	Water	8260B	
MB 440-564478/5	Method Blank	Total/NA	Water	8260B	
LCS 440-564478/1003	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-564478/6	Lab Control Sample	Total/NA	Water	8260B	
440-248383-1 MS	OC_GW_PZ-9_20190820	Total/NA	Water	8260B	
440-248383-1 MSD	OC_GW_PZ-9_20190820	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 564850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248383-1	OC_GW_PZ-9_20190820	Total/NA	Water	3520C	
440-248383-2	OC_GW_OW-13B_20190819	Total/NA	Water	3520C	
440-248383-3	OC_GW_OW-13B_20190819K	Total/NA	Water	3520C	
MB 440-564850/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-564850/2-A	Lab Control Sample	Total/NA	Water	3520C	
440-248432-J-4-A MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	
440-248432-K-4-A MS	Matrix Spike	Total/NA	Water	3520C	

Analysis Batch: 565069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248383-1	OC_GW_PZ-9_20190820	Total/NA	Water	8270C SIM	564850
440-248383-2	OC_GW_OW-13B_20190819	Total/NA	Water	8270C SIM	564850
440-248383-3	OC_GW_OW-13B_20190819K	Total/NA	Water	8270C SIM	564850
MB 440-564850/1-A	Method Blank	Total/NA	Water	8270C SIM	564850
LCS 440-564850/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	564850
440-248432-J-4-A MSD	Matrix Spike Duplicate	Total/NA	Water	8270C SIM	564850
440-248432-K-4-A MS	Matrix Spike	Total/NA	Water	8270C SIM	564850

Definitions/Glossary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation

These commonly used abbreviations may or may not be present in this report.

□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248383-1

SDG: Omega Chemical

Laboratory: Eurofins TestAmerica, Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State Program	CA ELAP 2706	06-30-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine

17461 Denian Ave

Suite 100

Irvine, CA 92614

phone 949 281 1022 fax

Chain of Custody Record



THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Client Contact		Regulatory Program: <input type="checkbox"/> DW <input type="checkbox"/> NPOES <input type="checkbox"/> RCRA <input type="checkbox"/> Other:	Project Manager: Trent Henderson Tel/Fax: (949) 453-1047	Site Contact: Khalid Azhar Carrier:	Date: 8/19 /19	COC No:
De Maximis - Jamie Dineo 1322 Scott St., Suite 104 San Diego, CA 92106 (562) 758-8149		Analysis Turnaround Time		1 of 1 COCs		
		<input type="checkbox"/> WORKING DAYS <input type="checkbox"/> CALENDAR DAYS		Sampler		
		TAT if different from Below <u>STD</u>		For Lab Use Only: Walk-in Client: _____ Lab Sampling: _____		
Project Name: Omega Chem. - 2019 Semi-Ann. GWM Feb Site: Omega Chemical P O #: 3139GE742		<input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Job / SDG No.: _____		
				Sample Specific Notes: _____		
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp., G=Grab)	Matrix	% of Cont.	
OC GW PZ-3 201908	8/ /19		Grab	GW	5	<input type="checkbox"/> <input type="checkbox"/>
OC GW PZ-9 201908 70	8/20/19	0815	Grab	GW	5	<input type="checkbox"/> <input type="checkbox"/>
OC GW OW-11 201908	8/ /19		Grab	GW	5	<input type="checkbox"/> <input type="checkbox"/>
OC GW OW-13B 201908 19	8/19/19	1135	Grab	GW	5	<input type="checkbox"/> <input type="checkbox"/>
OC TB 201908	8/ /19		Grab	H2O	5	<input type="checkbox"/> <input type="checkbox"/>
OC GW_OW-13B_20190819K	8/19/19	1140	Grab	Cu	5	<input type="checkbox"/> <input type="checkbox"/>
OC GW_OW-13B_20190819N	8/19/19	1230	Grab	W ₂ O	3	<input type="checkbox"/> <input type="checkbox"/>
440-248383 Chain of Custody 8/20/19 LD						
Preservation Used: 1= Ice, 2= HCl; 3= H ₂ SO ₄ ; 4=HNO ₃ ; 5=NaOH; 6= Other						
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.						
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison A <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown						
Comments:						
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		43509	Received by: <i>Callie Reina</i>	Cooler Temp (°C): Obs'd. <u>14.9</u>	Cond'd. <u></u>	Therm ID No. <u></u>
Relinquished by: <i>Callie Reina</i>		Company: <i>JHA</i>	Date/Time: <u>8/20/19</u>	Company: <i>TA-IPU</i>	Date/Time: <u>8/20/19 1818</u>	Date/Time: <u>8/20/19 1449</u>
Relinquished by: <i>Callie Reina</i>		Company: <i>TA-IPU</i>	Date/Time: <u>8/20/19 1818</u>	Received by: <i>Callie Reina</i>	Company: <i>JHA</i>	Date/Time: <u>8/20/19 1818</u>
Relinquished by: <i>Callie Reina</i>		Company: <i>JHA</i>	Date/Time: <u>8/20/19 1818</u>	Archive for _____ Months		
Special Instructions/QC Requirements & Comments:						
O. 9/1/1 #88						

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C. Job Number: 440-248383-1
SDG Number: Omega Chemical

Login Number: 248383

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True		
The cooler's custody seal, if present, is intact.	N/A	Not present	
Sample custody seals, if present, are intact.	N/A	Not Present	
The cooler or samples do not appear to have been compromised or tampered with.	True		
Samples were received on ice.	True		
Cooler Temperature is acceptable.	True		
Cooler Temperature is recorded.	True		
COC is present.	True		
COC is filled out in ink and legible.	True		
COC is filled out with all pertinent information.	True		
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.	
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		



Environment Testing
TestAmerica



ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-248385-1

Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

For:

Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson

Danielle Roberts

Authorized for release by:
8/30/2019 4:35:04 PM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID	
440-248385-1	OC_GW_OW-8_20190820	Water	08/20/19 07:39	08/20/19 18:18		1
440-248385-2	OC_GW_OW-8B_20190820	Water	08/20/19 08:54	08/20/19 18:18		2
440-248385-3	OC_GW_OW-9_20190820	Water	08/20/19 08:35	08/20/19 18:18		3
440-248385-4	OC_GW_OW-10_20190820	Water	08/20/19 09:00	08/20/19 18:18		4
440-248385-5	OC_GW_OW-8B_20190820N	Water	08/20/19 09:55	08/20/19 18:18		5
440-248385-6	OC_TB1_20190820	Water	08/20/19 07:00	08/20/19 18:18		6

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Eurofins TestAmerica, Irvine

Case Narrative

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1
SDG: Omega Chemical

Job ID: 440-248385-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-248385-1

Comments

No additional comments.

Receipt

The samples were received on 8/20/2019 6:18 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1° C.

GC/MS VOA

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-564781 recovered above the upper control limit for Isopropyl alcohol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: OC_GW_OW-8_20190820 (440-248385-1), OC_GW_OW-8B_20190820 (440-248385-2), OC_GW_OW-9_20190820 (440-248385-3), OC_GW_OW-10_20190820 (440-248385-4), OC_GW_OW-8B_20190820N (440-248385-5), OC_TB1_20190820 (440-248385-6) and (CCV 440-564781/3).

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-564781 recovered above the upper control limit for Carbon tetrachloride, Acetone, 1,1,1-Trichloroethane and Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted:

OC_GW_OW-8_20190820 (440-248385-1), OC_GW_OW-8B_20190820 (440-248385-2), OC_GW_OW-9_20190820 (440-248385-3), OC_GW_OW-10_20190820 (440-248385-4), OC_GW_OW-8B_20190820N (440-248385-5), OC_TB1_20190820 (440-248385-6) and (CCVIS 440-564781/2).

Method(s) 8260B: The laboratory control sample duplicate (LCSD) for analytical batch 440-564781 recovered outside control limits for the following analytes: Carbon tetrachloride, Acetone, 1,1,1-Trichloroethane and Trichlorofluoromethane. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 440-564781 recovered outside control limits for the following analytes: Carbon tetrachloride, Chloroform, 1,1,1-Trichloroethane and Trichlorofluoromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 440-564781 recovered outside control limits for the following analyte: Isopropyl alcohol. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Method(s) 3520C: The following sample was diluted due to the nature of the sample matrix: OC_GW_OW-9_20190820 (440-248385-3). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-8_20190820

Lab Sample ID: 440-248385-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	0.70	J	1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.11	J	0.49	0.097	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_OW-8B_20190820

Lab Sample ID: 440-248385-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	25		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.11	J	0.49	0.098	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_OW-9_20190820

Lab Sample ID: 440-248385-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	230		50	5.0	ug/L	10		8260B	Total/NA
1,1-Dichloroethane	10		10	2.5	ug/L	10		8260B	Total/NA
1,1-Dichloroethene	280		10	2.5	ug/L	10		8260B	Total/NA
1,2-Dichloroethane	94		10	2.5	ug/L	10		8260B	Total/NA
cis-1,2-Dichloroethene	4.7	J	10	2.5	ug/L	10		8260B	Total/NA
trans-1,2-Dichloroethene	3.7	J	10	2.5	ug/L	10		8260B	Total/NA
Trichloroethene	220		10	2.5	ug/L	10		8260B	Total/NA
Chloroform - DL	350	*	100	25	ug/L	100		8260B	Total/NA
Tetrachloroethene - DL	4200		100	25	ug/L	100		8260B	Total/NA
Trichlorofluoromethane - DL	100	*	100	25	ug/L	100		8260B	Total/NA
1,4-Dioxane	480		10	2.0	ug/L	2		8270C SIM	Total/NA

Client Sample ID: OC_GW_OW-10_20190820

Lab Sample ID: 440-248385-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2-Trichloro-1,2,2-trifluoroethane	7.1		5.0	0.50	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	16		1.0	0.25	ug/L	1		8260B	Total/NA
Tetrachloroethene	22		1.0	0.25	ug/L	1		8260B	Total/NA
Trichloroethene	1.6		1.0	0.25	ug/L	1		8260B	Total/NA
Trichlorofluoromethane - RA	3.3		1.0	0.25	ug/L	1		8260B	Total/NA
1,4-Dioxane	0.16	J	0.52	0.10	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_GW_OW-8B_20190820N

Lab Sample ID: 440-248385-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone - RA	24		10	10	ug/L	1		8260B	Total/NA

Client Sample ID: OC_TB1_20190820

Lab Sample ID: 440-248385-6

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-8_20190820

Lab Sample ID: 440-248385-1

Matrix: Water

Date Collected: 08/20/19 07:39

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/22/19 12:04	1
1,1,1-Trichloroethane	ND	*	1.0	0.25	ug/L			08/22/19 12:04	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/22/19 12:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/22/19 12:04	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/22/19 12:04	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/22/19 12:04	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/22/19 12:04	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/22/19 12:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/22/19 12:04	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/22/19 12:04	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/22/19 12:04	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/22/19 12:04	1
1,2-Dichloropropene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/22/19 12:04	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/22/19 12:04	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
Acetone	ND	*	10	10	ug/L			08/22/19 12:04	1
Benzene	ND		0.50	0.25	ug/L			08/22/19 12:04	1
Bromobenzene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/22/19 12:04	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/22/19 12:04	1
Bromoform	ND		1.0	0.40	ug/L			08/22/19 12:04	1
Bromomethane	ND		1.0	0.25	ug/L			08/22/19 12:04	1
Carbon tetrachloride	ND	*	0.50	0.25	ug/L			08/22/19 12:04	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
Chloroethane	ND		1.0	0.40	ug/L			08/22/19 12:04	1
Chloroform	ND	*	1.0	0.25	ug/L			08/22/19 12:04	1
Chloromethane	ND		1.0	0.25	ug/L			08/22/19 12:04	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/22/19 12:04	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/22/19 12:04	1
Dibromomethane	ND		1.0	0.25	ug/L			08/22/19 12:04	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/22/19 12:04	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
Isopropyl alcohol	ND	*	250	180	ug/L			08/22/19 12:04	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/22/19 12:04	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/22/19 12:04	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/22/19 12:04	1
Naphthalene	ND		1.0	0.40	ug/L			08/22/19 12:04	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-8_20190820

Lab Sample ID: 440-248385-1

Matrix: Water

Date Collected: 08/20/19 07:39

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	ND		1.0	0.40	ug/L			08/22/19 12:04	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
o-Xylene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
Styrene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
Tetrachloroethene	0.70	J	1.0	0.25	ug/L			08/22/19 12:04	1
Toluene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/22/19 12:04	1
Trichloroethene	ND		1.0	0.25	ug/L			08/22/19 12:04	1
Trichlorofluoromethane	ND *		1.0	0.25	ug/L			08/22/19 12:04	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/22/19 12:04	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	230	T J	ug/L		2.41			08/22/19 12:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	133	X	70 - 130					08/22/19 12:04	1
4-Bromofluorobenzene (Surr)	88		80 - 120					08/22/19 12:04	1
Dibromofluoromethane (Surr)	129		76 - 132					08/22/19 12:04	1
Toluene-d8 (Surr)	92		80 - 128					08/22/19 12:04	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.11	J	0.49	0.097	ug/L		08/22/19 10:30	08/23/19 12:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	29		27 - 120				08/22/19 10:30	08/23/19 12:23	1

Client Sample ID: OC_GW_OW-8B_20190820

Lab Sample ID: 440-248385-2

Matrix: Water

Date Collected: 08/20/19 08:54

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/22/19 12:34	1
1,1,1-Trichloroethane	ND *		1.0	0.25	ug/L			08/22/19 12:34	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/22/19 12:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/22/19 12:34	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/22/19 12:34	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/22/19 12:34	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/22/19 12:34	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/22/19 12:34	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/22/19 12:34	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/22/19 12:34	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/22/19 12:34	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-8B_20190820

Lab Sample ID: 440-248385-2

Matrix: Water

Date Collected: 08/20/19 08:54

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/22/19 12:34	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/22/19 12:34	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/22/19 12:34	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/22/19 12:34	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
Acetone	ND *		10	10	ug/L			08/22/19 12:34	1
Benzene	ND		0.50	0.25	ug/L			08/22/19 12:34	1
Bromobenzene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/22/19 12:34	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/22/19 12:34	1
Bromoform	ND		1.0	0.40	ug/L			08/22/19 12:34	1
Bromomethane	ND		1.0	0.25	ug/L			08/22/19 12:34	1
Carbon tetrachloride	ND *		0.50	0.25	ug/L			08/22/19 12:34	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
Chloroethane	ND		1.0	0.40	ug/L			08/22/19 12:34	1
Chloroform	ND *		1.0	0.25	ug/L			08/22/19 12:34	1
Chloromethane	ND		1.0	0.25	ug/L			08/22/19 12:34	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/22/19 12:34	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/22/19 12:34	1
Dibromomethane	ND		1.0	0.25	ug/L			08/22/19 12:34	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/22/19 12:34	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
Isopropyl alcohol	ND *		250	180	ug/L			08/22/19 12:34	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/22/19 12:34	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/22/19 12:34	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/22/19 12:34	1
Naphthalene	ND		1.0	0.40	ug/L			08/22/19 12:34	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/22/19 12:34	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
o-Xylene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
Styrene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
Tetrachloroethene	25		1.0	0.25	ug/L			08/22/19 12:34	1
Toluene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/22/19 12:34	1
Trichloroethene	ND		1.0	0.25	ug/L			08/22/19 12:34	1
Trichlorofluoromethane	ND *		1.0	0.25	ug/L			08/22/19 12:34	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/22/19 12:34	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-8B_20190820

Lab Sample ID: 440-248385-2

Matrix: Water

Date Collected: 08/20/19 08:54

Date Received: 08/20/19 18:18

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	490	T J	ug/L		2.41			08/22/19 12:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	136	X	70 - 130					08/22/19 12:34	1
4-Bromofluorobenzene (Surr)	90		80 - 120					08/22/19 12:34	1
Dibromofluoromethane (Surr)	121		76 - 132					08/22/19 12:34	1
Toluene-d8 (Surr)	99		80 - 128					08/22/19 12:34	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.11	J	0.49	0.098	ug/L		08/22/19 10:30	08/23/19 12:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	56		27 - 120				08/22/19 10:30	08/23/19 12:44	1

Client Sample ID: OC_GW_OW-9_20190820

Lab Sample ID: 440-248385-3

Matrix: Water

Date Collected: 08/20/19 08:35

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		10	2.5	ug/L			08/22/19 13:04	10
1,1,1-Trichloroethane	ND *		10	2.5	ug/L			08/22/19 13:04	10
1,1,2,2-Tetrachloroethane	ND		10	2.5	ug/L			08/22/19 13:04	10
1,1,2-Trichloro-1,2,2-trifluoroethane	230		50	5.0	ug/L			08/22/19 13:04	10
1,1,2-Trichloroethane	ND		10	2.5	ug/L			08/22/19 13:04	10
1,1-Dichloroethane	10		10	2.5	ug/L			08/22/19 13:04	10
1,1-Dichloroethene	280		10	2.5	ug/L			08/22/19 13:04	10
1,1-Dichloropropene	ND		10	2.5	ug/L			08/22/19 13:04	10
1,2,3-Trichlorobenzene	ND		10	4.0	ug/L			08/22/19 13:04	10
1,2,3-Trichloropropane	ND		10	4.0	ug/L			08/22/19 13:04	10
1,2,4-Trichlorobenzene	ND		10	4.0	ug/L			08/22/19 13:04	10
1,2,4-Trimethylbenzene	ND		10	2.5	ug/L			08/22/19 13:04	10
1,2-Dibromo-3-Chloropropane	ND		50	5.0	ug/L			08/22/19 13:04	10
1,2-Dibromoethane (EDB)	ND		10	2.5	ug/L			08/22/19 13:04	10
1,2-Dichlorobenzene	ND		10	2.5	ug/L			08/22/19 13:04	10
1,2-Dichloroethane	94		10	2.5	ug/L			08/22/19 13:04	10
1,2-Dichloropropane	ND		10	2.5	ug/L			08/22/19 13:04	10
1,3,5-Trimethylbenzene	ND		10	2.5	ug/L			08/22/19 13:04	10
1,3-Dichlorobenzene	ND		10	2.5	ug/L			08/22/19 13:04	10
1,3-Dichloropropane	ND		10	2.5	ug/L			08/22/19 13:04	10
1,4-Dichlorobenzene	ND		10	2.5	ug/L			08/22/19 13:04	10
2,2-Dichloropropane	ND		10	4.0	ug/L			08/22/19 13:04	10
2-Chlorotoluene	ND		10	2.5	ug/L			08/22/19 13:04	10
4-Chlorotoluene	ND		10	2.5	ug/L			08/22/19 13:04	10
Acetone	ND *		100	100	ug/L			08/22/19 13:04	10
Benzene	ND		5.0	2.5	ug/L			08/22/19 13:04	10
Bromobenzene	ND		10	2.5	ug/L			08/22/19 13:04	10
Bromochloromethane	ND		10	2.5	ug/L			08/22/19 13:04	10
Bromodichloromethane	ND		10	2.5	ug/L			08/22/19 13:04	10

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-9_20190820

Lab Sample ID: 440-248385-3

Matrix: Water

Date Collected: 08/20/19 08:35

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		10	4.0	ug/L			08/22/19 13:04	10
Bromomethane	ND		10	2.5	ug/L			08/22/19 13:04	10
Carbon tetrachloride	ND *		5.0	2.5	ug/L			08/22/19 13:04	10
Chlorobenzene	ND		10	2.5	ug/L			08/22/19 13:04	10
Chloroethane	ND		10	4.0	ug/L			08/22/19 13:04	10
Chloromethane	ND		10	2.5	ug/L			08/22/19 13:04	10
cis-1,2-Dichloroethene	4.7	J	10	2.5	ug/L			08/22/19 13:04	10
cis-1,3-Dichloropropene	ND		5.0	2.5	ug/L			08/22/19 13:04	10
Dibromochloromethane	ND		10	2.5	ug/L			08/22/19 13:04	10
Dibromomethane	ND		10	2.5	ug/L			08/22/19 13:04	10
Dichlorodifluoromethane	ND		10	4.0	ug/L			08/22/19 13:04	10
Ethylbenzene	ND		10	2.5	ug/L			08/22/19 13:04	10
Hexachlorobutadiene	ND		10	2.5	ug/L			08/22/19 13:04	10
Isopropyl alcohol	ND *		2500	1800	ug/L			08/22/19 13:04	10
Isopropylbenzene	ND		10	2.5	ug/L			08/22/19 13:04	10
m,p-Xylene	ND		10	5.0	ug/L			08/22/19 13:04	10
Methylene Chloride	ND		50	8.8	ug/L			08/22/19 13:04	10
Methyl-t-Butyl Ether (MTBE)	ND		10	2.5	ug/L			08/22/19 13:04	10
Naphthalene	ND		10	4.0	ug/L			08/22/19 13:04	10
n-Butylbenzene	ND		10	4.0	ug/L			08/22/19 13:04	10
N-Propylbenzene	ND		10	2.5	ug/L			08/22/19 13:04	10
o-Xylene	ND		10	2.5	ug/L			08/22/19 13:04	10
p-Isopropyltoluene	ND		10	2.5	ug/L			08/22/19 13:04	10
sec-Butylbenzene	ND		10	2.5	ug/L			08/22/19 13:04	10
Styrene	ND		10	2.5	ug/L			08/22/19 13:04	10
tert-Butylbenzene	ND		10	2.5	ug/L			08/22/19 13:04	10
Toluene	ND		10	2.5	ug/L			08/22/19 13:04	10
trans-1,2-Dichloroethene	3.7	J	10	2.5	ug/L			08/22/19 13:04	10
trans-1,3-Dichloropropene	ND		5.0	2.5	ug/L			08/22/19 13:04	10
Trichloroethene	220		10	2.5	ug/L			08/22/19 13:04	10
Vinyl chloride	ND		5.0	2.5	ug/L			08/22/19 13:04	10

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	1900	T J	ug/L		2.41			08/22/19 13:04	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	137	X	70 - 130		08/22/19 13:04	10
4-Bromofluorobenzene (Surr)	93		80 - 120		08/22/19 13:04	10
Dibromofluoromethane (Surr)	126		76 - 132		08/22/19 13:04	10
Toluene-d8 (Surr)	93		80 - 128		08/22/19 13:04	10

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	350 *		100	25	ug/L			08/22/19 13:34	100
Tetrachloroethene	4200		100	25	ug/L			08/22/19 13:34	100
Trichlorofluoromethane	100 *		100	25	ug/L			08/22/19 13:34	100

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	7500	T J	ug/L		2.41			08/22/19 13:34	100

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-9_20190820

Lab Sample ID: 440-248385-3

Matrix: Water

Date Collected: 08/20/19 08:35

Date Received: 08/20/19 18:18

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	137	X	70 - 130		08/22/19 13:34	100
4-Bromofluorobenzene (Surr)	90		80 - 120		08/22/19 13:34	100
Dibromofluoromethane (Surr)	129		76 - 132		08/22/19 13:34	100
Toluene-d8 (Surr)	92		80 - 128		08/22/19 13:34	100

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	480		10	2.0	ug/L	D	08/22/19 10:30	08/23/19 17:57	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	45		27 - 120				08/22/19 10:30	08/23/19 17:57	2

Client Sample ID: OC_GW_OW-10_20190820

Lab Sample ID: 440-248385-4

Matrix: Water

Date Collected: 08/20/19 09:00

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L		08/22/19 14:04		1
1,1,1-Trichloroethane	ND *		1.0	0.25	ug/L		08/22/19 14:04		1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L		08/22/19 14:04		1
1,1,2-Trichloro-1,2,2-trifluoroethane	7.1		5.0	0.50	ug/L		08/22/19 14:04		1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L		08/22/19 14:04		1
1,1-Dichloroethane	ND		1.0	0.25	ug/L		08/22/19 14:04		1
1,1-Dichloroethene	16		1.0	0.25	ug/L		08/22/19 14:04		1
1,1-Dichloropropene	ND		1.0	0.25	ug/L		08/22/19 14:04		1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L		08/22/19 14:04		1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L		08/22/19 14:04		1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L		08/22/19 14:04		1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L		08/22/19 14:04		1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L		08/22/19 14:04		1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L		08/22/19 14:04		1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L		08/22/19 14:04		1
1,2-Dichloroethane	ND		1.0	0.25	ug/L		08/22/19 14:04		1
1,2-Dichloropropane	ND		1.0	0.25	ug/L		08/22/19 14:04		1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L		08/22/19 14:04		1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L		08/22/19 14:04		1
1,3-Dichloropropane	ND		1.0	0.25	ug/L		08/22/19 14:04		1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L		08/22/19 14:04		1
2,2-Dichloropropane	ND		1.0	0.40	ug/L		08/22/19 14:04		1
2-Chlorotoluene	ND		1.0	0.25	ug/L		08/22/19 14:04		1
4-Chlorotoluene	ND		1.0	0.25	ug/L		08/22/19 14:04		1
Acetone	ND *		10	10	ug/L		08/22/19 14:04		1
Benzene	ND		0.50	0.25	ug/L		08/22/19 14:04		1
Bromobenzene	ND		1.0	0.25	ug/L		08/22/19 14:04		1
Bromochloromethane	ND		1.0	0.25	ug/L		08/22/19 14:04		1
Bromodichloromethane	ND		1.0	0.25	ug/L		08/22/19 14:04		1
Bromoform	ND		1.0	0.40	ug/L		08/22/19 14:04		1
Bromomethane	ND		1.0	0.25	ug/L		08/22/19 14:04		1
Carbon tetrachloride	ND *		0.50	0.25	ug/L		08/22/19 14:04		1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-10_20190820

Lab Sample ID: 440-248385-4

Matrix: Water

Date Collected: 08/20/19 09:00

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		1.0	0.25	ug/L			08/22/19 14:04	1
Chloroethane	ND		1.0	0.40	ug/L			08/22/19 14:04	1
Chloroform	ND *		1.0	0.25	ug/L			08/22/19 14:04	1
Chloromethane	ND		1.0	0.25	ug/L			08/22/19 14:04	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/22/19 14:04	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/22/19 14:04	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/22/19 14:04	1
Dibromomethane	ND		1.0	0.25	ug/L			08/22/19 14:04	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/22/19 14:04	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/22/19 14:04	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/22/19 14:04	1
Isopropyl alcohol	ND *		250	180	ug/L			08/22/19 14:04	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/22/19 14:04	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/22/19 14:04	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/22/19 14:04	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/22/19 14:04	1
Naphthalene	ND		1.0	0.40	ug/L			08/22/19 14:04	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/22/19 14:04	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/22/19 14:04	1
o-Xylene	ND		1.0	0.25	ug/L			08/22/19 14:04	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/22/19 14:04	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/22/19 14:04	1
Styrene	ND		1.0	0.25	ug/L			08/22/19 14:04	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/22/19 14:04	1
Tetrachloroethene	22		1.0	0.25	ug/L			08/22/19 14:04	1
Toluene	ND		1.0	0.25	ug/L			08/22/19 14:04	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/22/19 14:04	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/22/19 14:04	1
Trichloroethene	1.6		1.0	0.25	ug/L			08/22/19 14:04	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/22/19 14:04	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	590	T J	ug/L		2.41			08/22/19 14:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	132	X	70 - 130		08/22/19 14:04	1
4-Bromofluorobenzene (Surr)	88		80 - 120		08/22/19 14:04	1
Dibromofluoromethane (Surr)	124		76 - 132		08/22/19 14:04	1
Toluene-d8 (Surr)	91		80 - 128		08/22/19 14:04	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	3.3		1.0	0.25	ug/L			08/23/19 10:41	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Tentatively Identified Compound	None		ug/L					08/23/19 10:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 130		08/23/19 10:41	1
4-Bromofluorobenzene (Surr)	100		80 - 120		08/23/19 10:41	1
Dibromofluoromethane (Surr)	102		76 - 132		08/23/19 10:41	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-10_20190820

Lab Sample ID: 440-248385-4

Matrix: Water

Date Collected: 08/20/19 09:00

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 128		08/23/19 10:41	1

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.16	J	0.52	0.10	ug/L	D	08/22/19 10:30	08/23/19 13:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	36		27 - 120				08/22/19 10:30	08/23/19 13:27	1

Client Sample ID: OC_GW_OW-8B_20190820N

Lab Sample ID: 440-248385-5

Matrix: Water

Date Collected: 08/20/19 09:55

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/22/19 14:34	1
1,1,1-Trichloroethane	ND	*	1.0	0.25	ug/L			08/22/19 14:34	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/22/19 14:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/22/19 14:34	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/22/19 14:34	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/22/19 14:34	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/22/19 14:34	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/22/19 14:34	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/22/19 14:34	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/22/19 14:34	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/22/19 14:34	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/22/19 14:34	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/22/19 14:34	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/22/19 14:34	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/22/19 14:34	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
Benzene	ND		0.50	0.25	ug/L			08/22/19 14:34	1
Bromobenzene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/22/19 14:34	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/22/19 14:34	1
Bromoform	ND		1.0	0.40	ug/L			08/22/19 14:34	1
Bromomethane	ND		1.0	0.25	ug/L			08/22/19 14:34	1
Carbon tetrachloride	ND	*	0.50	0.25	ug/L			08/22/19 14:34	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
Chloroethane	ND		1.0	0.40	ug/L			08/22/19 14:34	1
Chloroform	ND	*	1.0	0.25	ug/L			08/22/19 14:34	1
Chloromethane	ND		1.0	0.25	ug/L			08/22/19 14:34	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-8B_20190820N

Lab Sample ID: 440-248385-5

Matrix: Water

Date Collected: 08/20/19 09:55

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/22/19 14:34	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/22/19 14:34	1
Dibromomethane	ND		1.0	0.25	ug/L			08/22/19 14:34	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/22/19 14:34	1
Ethylbenzene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
Isopropyl alcohol	ND *		250	180	ug/L			08/22/19 14:34	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/22/19 14:34	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/22/19 14:34	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/22/19 14:34	1
Naphthalene	ND		1.0	0.40	ug/L			08/22/19 14:34	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/22/19 14:34	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
o-Xylene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
Styrene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
Toluene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/22/19 14:34	1
Trichloroethene	ND		1.0	0.25	ug/L			08/22/19 14:34	1
Trichlorofluoromethane	ND *		1.0	0.25	ug/L			08/22/19 14:34	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/22/19 14:34	1

Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	77	T J	ug/L		2.41			08/22/19 14:34	1
Unknown	3.1	T J	ug/L		3.24			08/22/19 14:34	1
Unknown	3.0	T J	ug/L		6.46			08/22/19 14:34	1
Unknown	2.8	T J	ug/L		8.41			08/22/19 14:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	132	X	70 - 130		08/22/19 14:34	1
4-Bromofluorobenzene (Surr)	90		80 - 120		08/22/19 14:34	1
Dibromofluoromethane (Surr)	123		76 - 132		08/22/19 14:34	1
Toluene-d8 (Surr)	95		80 - 128		08/22/19 14:34	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	24		10	10	ug/L			08/23/19 11:07	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	2.7	T J	ug/L		2.32			08/23/19 11:07	1
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	103		70 - 130		08/23/19 11:07	1			
4-Bromofluorobenzene (Surr)	103		80 - 120		08/23/19 11:07	1			
Dibromofluoromethane (Surr)	104		76 - 132		08/23/19 11:07	1			

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-8B_20190820N

Date Collected: 08/20/19 09:55

Date Received: 08/20/19 18:18

Lab Sample ID: 440-248385-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	100		80 - 128		08/23/19 11:07	1

Client Sample ID: OC_TB1_20190820

Date Collected: 08/20/19 07:00

Date Received: 08/20/19 18:18

Lab Sample ID: 440-248385-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/22/19 15:04	1
1,1,1-Trichloroethane	ND *		1.0	0.25	ug/L			08/22/19 15:04	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L			08/22/19 15:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L			08/22/19 15:04	1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L			08/22/19 15:04	1
1,1-Dichloroethane	ND		1.0	0.25	ug/L			08/22/19 15:04	1
1,1-Dichloroethene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
1,1-Dichloropropene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			08/22/19 15:04	1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L			08/22/19 15:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L			08/22/19 15:04	1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			08/22/19 15:04	1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L			08/22/19 15:04	1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
1,2-Dichloroethane	ND		1.0	0.25	ug/L			08/22/19 15:04	1
1,2-Dichloropropane	ND		1.0	0.25	ug/L			08/22/19 15:04	1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
1,3-Dichloropropane	ND		1.0	0.25	ug/L			08/22/19 15:04	1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
2,2-Dichloropropane	ND		1.0	0.40	ug/L			08/22/19 15:04	1
2-Chlorotoluene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
4-Chlorotoluene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
Acetone	ND *		10	10	ug/L			08/22/19 15:04	1
Benzene	ND		0.50	0.25	ug/L			08/22/19 15:04	1
Bromobenzene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
Bromochloromethane	ND		1.0	0.25	ug/L			08/22/19 15:04	1
Bromodichloromethane	ND		1.0	0.25	ug/L			08/22/19 15:04	1
Bromoform	ND		1.0	0.40	ug/L			08/22/19 15:04	1
Bromomethane	ND		1.0	0.25	ug/L			08/22/19 15:04	1
Carbon tetrachloride	ND *		0.50	0.25	ug/L			08/22/19 15:04	1
Chlorobenzene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
Chloroethane	ND		1.0	0.40	ug/L			08/22/19 15:04	1
Chloroform	ND *		1.0	0.25	ug/L			08/22/19 15:04	1
Chloromethane	ND		1.0	0.25	ug/L			08/22/19 15:04	1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/22/19 15:04	1
Dibromochloromethane	ND		1.0	0.25	ug/L			08/22/19 15:04	1
Dibromomethane	ND		1.0	0.25	ug/L			08/22/19 15:04	1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L			08/22/19 15:04	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Client Sample ID: OC_TB1_20190820

Lab Sample ID: 440-248385-6

Matrix: Water

Date Collected: 08/20/19 07:00

Date Received: 08/20/19 18:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
Hexachlorobutadiene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
Isopropyl alcohol	ND *		250	180	ug/L			08/22/19 15:04	1
Isopropylbenzene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
m,p-Xylene	ND		1.0	0.50	ug/L			08/22/19 15:04	1
Methylene Chloride	ND		5.0	0.88	ug/L			08/22/19 15:04	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			08/22/19 15:04	1
Naphthalene	ND		1.0	0.40	ug/L			08/22/19 15:04	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/22/19 15:04	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
o-Xylene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
Styrene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
Toluene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/22/19 15:04	1
Trichloroethene	ND		1.0	0.25	ug/L			08/22/19 15:04	1
Trichlorofluoromethane	ND *		1.0	0.25	ug/L			08/22/19 15:04	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/22/19 15:04	1
Tentatively Identified Compound	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
Unknown	52	T J	ug/L		2.41			08/22/19 15:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	134	X	70 - 130					08/22/19 15:04	1
4-Bromofluorobenzene (Surr)	89		80 - 120					08/22/19 15:04	1
Dibromofluoromethane (Surr)	123		76 - 132					08/22/19 15:04	1
Toluene-d8 (Surr)	91		80 - 128					08/22/19 15:04	1

Eurofins TestAmerica, Irvine

Surrogate Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-248385-1	OC_GW_OW-8_20190820	133 X	88	129	92
440-248385-2	OC_GW_OW-8B_20190820	136 X	90	121	99
440-248385-3	OC_GW_OW-9_20190820	137 X	93	126	93
440-248385-3 - DL	OC_GW_OW-9_20190820	137 X	90	129	92
440-248385-4	OC_GW_OW-10_20190820	132 X	88	124	91
440-248385-4 - RA	OC_GW_OW-10_20190820	101	100	102	100
440-248385-4 MS	OC_GW_OW-10_20190820	100	96	101	99
440-248385-4 MSD	OC_GW_OW-10_20190820	94	98	97	100
440-248385-5	OC_GW_OW-8B_20190820N	132 X	90	123	95
440-248385-5 - RA	OC_GW_OW-8B_20190820N	103	103	104	100
440-248385-6	OC_TB1_20190820	134 X	89	123	91
550-128175-A-1 MS	Matrix Spike	129	88	117	90
550-128175-A-1 MSD	Matrix Spike Duplicate	120	86	117	90
LCS 440-564781/1003	Lab Control Sample	119	85	111	95
LCS 440-564781/5	Lab Control Sample	126	91	121	93
LCS 440-565018/6	Lab Control Sample	98	102	100	97
LCSD 440-564781/6	Lab Control Sample Dup	127	91	116	93
MB 440-564781/4	Method Blank	129	95	121	93
MB 440-565018/5	Method Blank	100	98	104	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DXE (27-120)			
440-248385-1	OC_GW_OW-8_20190820	29			
440-248385-2	OC_GW_OW-8B_20190820	56			
440-248385-3	OC_GW_OW-9_20190820	45			
440-248385-4	OC_GW_OW-10_20190820	36			
440-248432-J-4-A MSD	Matrix Spike Duplicate	58			
440-248432-K-4-A MS	Matrix Spike	68			
LCS 440-564850/2-A	Lab Control Sample	36			
MB 440-564850/1-A	Method Blank	34			

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Client Sample ID: OC_GW_OW-8_20190820

Lab Sample ID: 440-248385-1

Matrix: Water

Date Collected: 08/20/19 07:39

Date Received: 08/20/19 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	564781	08/22/19 12:04	WC	TAL IRV
Total/NA	Prep	3520C			1030 mL	1.0 mL	564850	08/22/19 10:30	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			565069	08/23/19 12:23	HN	TAL IRV

Client Sample ID: OC_GW_OW-8B_20190820

Lab Sample ID: 440-248385-2

Matrix: Water

Date Collected: 08/20/19 08:54

Date Received: 08/20/19 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	564781	08/22/19 12:34	WC	TAL IRV
Total/NA	Prep	3520C			1025 mL	1.0 mL	564850	08/22/19 10:30	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			565069	08/23/19 12:44	HN	TAL IRV

Client Sample ID: OC_GW_OW-9_20190820

Lab Sample ID: 440-248385-3

Matrix: Water

Date Collected: 08/20/19 08:35

Date Received: 08/20/19 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	10 mL	10 mL	564781	08/22/19 13:04	WC	TAL IRV
Total/NA	Analysis	8260B	DL	100	10 mL	10 mL	564781	08/22/19 13:34	WC	TAL IRV
Total/NA	Prep	3520C			100 mL	1.0 mL	564850	08/22/19 10:30	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		2			565069	08/23/19 17:57	HN	TAL IRV

Client Sample ID: OC_GW_OW-10_20190820

Lab Sample ID: 440-248385-4

Matrix: Water

Date Collected: 08/20/19 09:00

Date Received: 08/20/19 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565018	08/23/19 10:41	GMA	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	564781	08/22/19 14:04	WC	TAL IRV
Total/NA	Prep	3520C			970 mL	1.0 mL	564850	08/22/19 10:30	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			565069	08/23/19 13:27	HN	TAL IRV

Client Sample ID: OC_GW_OW-8B_20190820N

Lab Sample ID: 440-248385-5

Matrix: Water

Date Collected: 08/20/19 09:55

Date Received: 08/20/19 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565018	08/23/19 11:07	GMA	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	564781	08/22/19 14:34	WC	TAL IRV

Eurofins TestAmerica, Irvine

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1
SDG: Omega Chemical

Client Sample ID: OC_TB1_20190820

Lab Sample ID: 440-248385-6

Matrix: Water

Date Collected: 08/20/19 07:00

Date Received: 08/20/19 18:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	564781	08/22/19 15:04	WC	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-564781/4

Matrix: Water

Analysis Batch: 564781

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.25	ug/L		08/22/19 08:34		1
1,1,1-Trichloroethane	ND		1.0	0.25	ug/L		08/22/19 08:34		1
1,1,2,2-Tetrachloroethane	ND		1.0	0.25	ug/L		08/22/19 08:34		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	0.50	ug/L		08/22/19 08:34		1
1,1,2-Trichloroethane	ND		1.0	0.25	ug/L		08/22/19 08:34		1
1,1-Dichloroethane	ND		1.0	0.25	ug/L		08/22/19 08:34		1
1,1-Dichloroethene	ND		1.0	0.25	ug/L		08/22/19 08:34		1
1,1-Dichloropropene	ND		1.0	0.25	ug/L		08/22/19 08:34		1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L		08/22/19 08:34		1
1,2,3-Trichloropropane	ND		1.0	0.40	ug/L		08/22/19 08:34		1
1,2,4-Trichlorobenzene	ND		1.0	0.40	ug/L		08/22/19 08:34		1
1,2,4-Trimethylbenzene	ND		1.0	0.25	ug/L		08/22/19 08:34		1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L		08/22/19 08:34		1
1,2-Dibromoethane (EDB)	ND		1.0	0.25	ug/L		08/22/19 08:34		1
1,2-Dichlorobenzene	ND		1.0	0.25	ug/L		08/22/19 08:34		1
1,2-Dichloroethane	ND		1.0	0.25	ug/L		08/22/19 08:34		1
1,2-Dichloropropane	ND		1.0	0.25	ug/L		08/22/19 08:34		1
1,3,5-Trimethylbenzene	ND		1.0	0.25	ug/L		08/22/19 08:34		1
1,3-Dichlorobenzene	ND		1.0	0.25	ug/L		08/22/19 08:34		1
1,3-Dichloropropane	ND		1.0	0.25	ug/L		08/22/19 08:34		1
1,4-Dichlorobenzene	ND		1.0	0.25	ug/L		08/22/19 08:34		1
2,2-Dichloropropane	ND		1.0	0.40	ug/L		08/22/19 08:34		1
2-Chlorotoluene	ND		1.0	0.25	ug/L		08/22/19 08:34		1
4-Chlorotoluene	ND		1.0	0.25	ug/L		08/22/19 08:34		1
Acetone	ND		10	10	ug/L		08/22/19 08:34		1
Benzene	ND		0.50	0.25	ug/L		08/22/19 08:34		1
Bromobenzene	ND		1.0	0.25	ug/L		08/22/19 08:34		1
Bromochloromethane	ND		1.0	0.25	ug/L		08/22/19 08:34		1
Bromodichloromethane	ND		1.0	0.25	ug/L		08/22/19 08:34		1
Bromoform	ND		1.0	0.40	ug/L		08/22/19 08:34		1
Bromomethane	ND		1.0	0.25	ug/L		08/22/19 08:34		1
Carbon tetrachloride	ND		0.50	0.25	ug/L		08/22/19 08:34		1
Chlorobenzene	ND		1.0	0.25	ug/L		08/22/19 08:34		1
Chloroethane	ND		1.0	0.40	ug/L		08/22/19 08:34		1
Chloroform	ND		1.0	0.25	ug/L		08/22/19 08:34		1
Chloromethane	ND		1.0	0.25	ug/L		08/22/19 08:34		1
cis-1,2-Dichloroethene	ND		1.0	0.25	ug/L		08/22/19 08:34		1
cis-1,3-Dichloropropene	ND		0.50	0.25	ug/L		08/22/19 08:34		1
Dibromochloromethane	ND		1.0	0.25	ug/L		08/22/19 08:34		1
Dibromomethane	ND		1.0	0.25	ug/L		08/22/19 08:34		1
Dichlorodifluoromethane	ND		1.0	0.40	ug/L		08/22/19 08:34		1
Ethylbenzene	ND		1.0	0.25	ug/L		08/22/19 08:34		1
Hexachlorobutadiene	ND		1.0	0.25	ug/L		08/22/19 08:34		1
Isopropyl alcohol	ND		250	180	ug/L		08/22/19 08:34		1
Isopropylbenzene	ND		1.0	0.25	ug/L		08/22/19 08:34		1
m,p-Xylene	ND		1.0	0.50	ug/L		08/22/19 08:34		1
Methylene Chloride	ND		5.0	0.88	ug/L		08/22/19 08:34		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L		08/22/19 08:34		1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-564781/4

Matrix: Water

Analysis Batch: 564781

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Naphthalene	ND		1.0	0.40	ug/L			08/22/19 08:34	1
n-Butylbenzene	ND		1.0	0.40	ug/L			08/22/19 08:34	1
N-Propylbenzene	ND		1.0	0.25	ug/L			08/22/19 08:34	1
o-Xylene	ND		1.0	0.25	ug/L			08/22/19 08:34	1
p-Isopropyltoluene	ND		1.0	0.25	ug/L			08/22/19 08:34	1
sec-Butylbenzene	ND		1.0	0.25	ug/L			08/22/19 08:34	1
Styrene	ND		1.0	0.25	ug/L			08/22/19 08:34	1
tert-Butylbenzene	ND		1.0	0.25	ug/L			08/22/19 08:34	1
Tetrachloroethene	ND		1.0	0.25	ug/L			08/22/19 08:34	1
Toluene	ND		1.0	0.25	ug/L			08/22/19 08:34	1
trans-1,2-Dichloroethene	ND		1.0	0.25	ug/L			08/22/19 08:34	1
trans-1,3-Dichloropropene	ND		0.50	0.25	ug/L			08/22/19 08:34	1
Trichloroethene	ND		1.0	0.25	ug/L			08/22/19 08:34	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/22/19 08:34	1
Vinyl chloride	ND		0.50	0.25	ug/L			08/22/19 08:34	1
Tentatively Identified Compound	MB	MB	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
	Est. Result	Qualifier							
Tentatively Identified Compound	None		ug/L					08/22/19 08:34	1
Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac			
	%Recovery	Qualifier							
1,2-Dichloroethane-d4 (Surr)	129		70 - 130					08/22/19 08:34	1
4-Bromofluorobenzene (Surr)	95		80 - 120					08/22/19 08:34	1
Dibromofluoromethane (Surr)	121		76 - 132					08/22/19 08:34	1
Toluene-d8 (Surr)	93		80 - 128					08/22/19 08:34	1

Lab Sample ID: LCS 440-564781/1003

Matrix: Water

Analysis Batch: 564781

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spiked	LCS	LCS	Unit	D	%Rec.	Limits
	Added	Result	Qualifier				
Isopropyl alcohol	250	395	*	ug/L		158	49 - 142
<hr/>							
Surrogate	LCS	LCS	Limits	Prepared	Analyzed	Dil Fac	
	%Recovery	Qualifier					
1,2-Dichloroethane-d4 (Surr)	119		70 - 130				
4-Bromofluorobenzene (Surr)	85		80 - 120				
Dibromofluoromethane (Surr)	111		76 - 132				
Toluene-d8 (Surr)	95		80 - 128				

Lab Sample ID: LCS 440-564781/5

Matrix: Water

Analysis Batch: 564781

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spiked	LCS	LCS	Unit	D	%Rec.	Limits
	Added	Result	Qualifier				
1,1,1,2-Tetrachloroethane	10.0	12.2		ug/L		122	60 - 141
1,1,1-Trichloroethane	10.0	14.4	*	ug/L		144	70 - 130
1,1,2,2-Tetrachloroethane	10.0	8.05		ug/L		81	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	12.9		ug/L		129	60 - 140

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-564781/5

Matrix: Water

Analysis Batch: 564781

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	10.0	8.89		ug/L		89	70 - 130
1,1-Dichloroethane	10.0	10.5		ug/L		105	64 - 130
1,1-Dichloroethene	10.0	11.2		ug/L		112	70 - 130
1,1-Dichloropropene	10.0	10.8		ug/L		108	70 - 130
1,2,3-Trichlorobenzene	10.0	9.46		ug/L		95	60 - 140
1,2,3-Trichloropropane	10.0	10.5		ug/L		105	63 - 130
1,2,4-Trichlorobenzene	10.0	9.84		ug/L		98	60 - 140
1,2,4-Trimethylbenzene	10.0	9.85		ug/L		98	70 - 135
1,2-Dibromo-3-Chloropropane	10.0	9.85		ug/L		98	52 - 140
1,2-Dibromoethane (EDB)	10.0	10.7		ug/L		107	70 - 130
1,2-Dichlorobenzene	10.0	9.95		ug/L		100	70 - 130
1,2-Dichloroethane	10.0	13.4		ug/L		134	57 - 138
1,2-Dichloropropane	10.0	9.07		ug/L		91	67 - 130
1,3,5-Trimethylbenzene	10.0	9.78		ug/L		98	70 - 136
1,3-Dichlorobenzene	10.0	10.2		ug/L		102	70 - 130
1,3-Dichloropropane	10.0	9.48		ug/L		95	70 - 130
1,4-Dichlorobenzene	10.0	10.4		ug/L		104	70 - 130
2,2-Dichloropropane	10.0	14.1		ug/L		141	68 - 141
2-Chlorotoluene	10.0	8.84		ug/L		88	70 - 130
4-Chlorotoluene	10.0	8.98		ug/L		90	70 - 130
Acetone	50.0	70.6		ug/L		141	10 - 150
Benzene	10.0	9.83		ug/L		98	68 - 130
Bromobenzene	10.0	9.98		ug/L		100	70 - 130
Bromochloromethane	10.0	11.6		ug/L		116	70 - 130
Bromodichloromethane	10.0	12.5		ug/L		125	70 - 132
Bromoform	10.0	12.8		ug/L		128	60 - 148
Bromomethane	10.0	12.0		ug/L		120	64 - 139
Carbon tetrachloride	10.0	16.3 *		ug/L		163	60 - 150
Chlorobenzene	10.0	10.1		ug/L		101	70 - 130
Chloroethane	10.0	11.4		ug/L		114	64 - 135
Chloroform	10.0	13.1 *		ug/L		131	70 - 130
Chloromethane	10.0	10.2		ug/L		102	47 - 140
cis-1,2-Dichloroethene	10.0	10.3		ug/L		103	70 - 133
cis-1,3-Dichloropropene	10.0	9.57		ug/L		96	70 - 133
Dibromochloromethane	10.0	11.6		ug/L		116	69 - 145
Dibromomethane	10.0	12.6		ug/L		126	70 - 130
Dichlorodifluoromethane	10.0	14.1		ug/L		141	29 - 150
Ethylbenzene	10.0	9.62		ug/L		96	70 - 130
Hexachlorobutadiene	10.0	10.1		ug/L		101	10 - 150
Isopropylbenzene	10.0	10.7		ug/L		107	70 - 136
m,p-Xylene	10.0	9.65		ug/L		96	70 - 130
Methylene Chloride	10.0	9.00		ug/L		90	52 - 130
Methyl-t-Butyl Ether (MTBE)	10.0	10.0		ug/L		100	63 - 131
Naphthalene	10.0	8.76		ug/L		88	60 - 140
n-Butylbenzene	10.0	9.64		ug/L		96	65 - 150
N-Propylbenzene	10.0	9.06		ug/L		91	67 - 139
o-Xylene	10.0	10.3		ug/L		103	70 - 130
p-Isopropyltoluene	10.0	10.2		ug/L		102	70 - 132
sec-Butylbenzene	10.0	9.83		ug/L		98	70 - 138

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-564781/5

Matrix: Water

Analysis Batch: 564781

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Styrene	10.0	9.23		ug/L		92	70 - 134
tert-Butylbenzene	10.0	9.56		ug/L		96	70 - 130
Tetrachloroethene	10.0	11.3		ug/L		113	70 - 130
Toluene	10.0	9.73		ug/L		97	70 - 130
trans-1,2-Dichloroethene	10.0	10.1		ug/L		101	70 - 130
trans-1,3-Dichloropropene	10.0	10.4		ug/L		104	70 - 132
Trichloroethene	10.0	11.9		ug/L		119	70 - 130
Trichlorofluoromethane	10.0	16.9 *		ug/L		169	60 - 150
Vinyl chloride	10.0	10.8		ug/L		108	59 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	126		70 - 130
4-Bromofluorobenzene (Surr)	91		80 - 120
Dibromofluoromethane (Surr)	121		76 - 132
Toluene-d8 (Surr)	93		80 - 128

Lab Sample ID: LCSD 440-564781/6

Matrix: Water

Analysis Batch: 564781

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	10.0	12.6		ug/L		126	60 - 141	4	20
1,1,1-Trichloroethane	10.0	14.8 *		ug/L		148	70 - 130	3	20
1,1,2,2-Tetrachloroethane	10.0	7.91		ug/L		79	63 - 130	2	25
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	12.6		ug/L		126	60 - 140	3	20
1,1,2-Trichloroethane	10.0	9.65		ug/L		96	70 - 130	8	20
1,1-Dichloroethane	10.0	10.6		ug/L		106	64 - 130	1	20
1,1-Dichloroethene	10.0	10.9		ug/L		109	70 - 130	2	20
1,1-Dichloropropene	10.0	10.9		ug/L		109	70 - 130	1	20
1,2,3-Trichlorobenzene	10.0	9.94		ug/L		99	60 - 140	5	20
1,2,3-Trichloropropane	10.0	9.87		ug/L		99	63 - 130	6	20
1,2,4-Trichlorobenzene	10.0	10.1		ug/L		101	60 - 140	3	20
1,2,4-Trimethylbenzene	10.0	9.75		ug/L		97	70 - 135	1	20
1,2-Dibromo-3-Chloropropane	10.0	9.58		ug/L		96	52 - 140	3	30
1,2-Dibromoethane (EDB)	10.0	10.3		ug/L		103	70 - 130	4	20
1,2-Dichlorobenzene	10.0	10.1		ug/L		101	70 - 130	1	20
1,2-Dichloroethane	10.0	13.1		ug/L		131	57 - 138	2	20
1,2-Dichloropropane	10.0	8.90		ug/L		89	67 - 130	2	20
1,3,5-Trimethylbenzene	10.0	9.90		ug/L		99	70 - 136	1	20
1,3-Dichlorobenzene	10.0	10.3		ug/L		103	70 - 130	1	20
1,3-Dichloropropane	10.0	9.24		ug/L		92	70 - 130	3	20
1,4-Dichlorobenzene	10.0	10.2		ug/L		102	70 - 130	2	20
2,2-Dichloropropane	10.0	13.9		ug/L		139	68 - 141	2	25
2-Chlorotoluene	10.0	8.98		ug/L		90	70 - 130	2	20
4-Chlorotoluene	10.0	9.14		ug/L		91	70 - 130	2	20
Acetone	50.0	75.3 *		ug/L		151	10 - 150	6	30
Benzene	10.0	9.92		ug/L		99	68 - 130	1	20
Bromobenzene	10.0	10.1		ug/L		101	70 - 130	1	20

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-564781/6

Matrix: Water

Analysis Batch: 564781

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec. Limits	RPD	RPD Limit
Bromochloromethane	10.0	11.9		ug/L	119	70 - 130	3	20
Bromodichloromethane	10.0	12.4		ug/L	124	70 - 132	1	20
Bromoform	10.0	13.0		ug/L	130	60 - 148	1	25
Bromomethane	10.0	11.8		ug/L	118	64 - 139	2	20
Carbon tetrachloride	10.0	15.4 *		ug/L	154	60 - 150	5	25
Chlorobenzene	10.0	10.0		ug/L	100	70 - 130	1	20
Chloroethane	10.0	11.0		ug/L	110	64 - 135	4	20
Chloroform	10.0	12.4		ug/L	124	70 - 130	6	20
Chloromethane	10.0	10.1		ug/L	101	47 - 140	1	25
cis-1,2-Dichloroethene	10.0	9.69		ug/L	97	70 - 133	6	20
cis-1,3-Dichloropropene	10.0	9.25		ug/L	93	70 - 133	3	25
Dibromochloromethane	10.0	12.1		ug/L	121	69 - 145	4	20
Dibromomethane	10.0	11.8		ug/L	118	70 - 130	7	20
Dichlorodifluoromethane	10.0	11.5		ug/L	115	29 - 150	20	30
Ethylbenzene	10.0	9.65		ug/L	96	70 - 130	0	20
Hexachlorobutadiene	10.0	10.2		ug/L	102	10 - 150	0	20
Isopropylbenzene	10.0	10.6		ug/L	106	70 - 136	0	20
m,p-Xylene	10.0	10.3		ug/L	103	70 - 130	7	20
Methylene Chloride	10.0	9.59		ug/L	96	52 - 130	6	20
Methyl-t-Butyl Ether (MTBE)	10.0	10.6		ug/L	106	63 - 131	6	25
Naphthalene	10.0	9.20		ug/L	92	60 - 140	5	25
n-Butylbenzene	10.0	9.22		ug/L	92	65 - 150	5	20
N-Propylbenzene	10.0	8.75		ug/L	88	67 - 139	3	20
o-Xylene	10.0	10.0		ug/L	100	70 - 130	3	20
p-Isopropyltoluene	10.0	10.5		ug/L	105	70 - 132	2	20
sec-Butylbenzene	10.0	9.51		ug/L	95	70 - 138	3	20
Styrene	10.0	9.21		ug/L	92	70 - 134	0	20
tert-Butylbenzene	10.0	9.82		ug/L	98	70 - 130	3	20
Tetrachloroethene	10.0	11.4		ug/L	114	70 - 130	1	20
Toluene	10.0	9.27		ug/L	93	70 - 130	5	20
trans-1,2-Dichloroethene	10.0	9.01		ug/L	90	70 - 130	11	20
trans-1,3-Dichloropropene	10.0	10.4		ug/L	104	70 - 132	0	20
Trichloroethene	10.0	11.2		ug/L	112	70 - 130	6	20
Trichlorofluoromethane	10.0	17.0 *		ug/L	170	60 - 150	1	20
Vinyl chloride	10.0	10.5		ug/L	105	59 - 133	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	127		70 - 130
4-Bromofluorobenzene (Surr)	91		80 - 120
Dibromofluoromethane (Surr)	116		76 - 132
Toluene-d8 (Surr)	93		80 - 128

Lab Sample ID: 550-128175-A-1 MS

Matrix: Water

Analysis Batch: 564781

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		10.0	11.2		ug/L	112	60 - 149

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 550-128175-A-1 MS

Matrix: Water

Analysis Batch: 564781

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,1,1-Trichloroethane	ND	* F1	10.0	13.5	F1	ug/L	135	70 - 130	
1,1,2,2-Tetrachloroethane	ND		10.0	8.96		ug/L	90	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	13.0		ug/L	130	60 - 140	
1,1,2-Trichloroethane	ND		10.0	8.26		ug/L	83	70 - 130	
1,1-Dichloroethane	ND		10.0	9.41		ug/L	94	65 - 130	
1,1-Dichloroethene	ND		10.0	10.9		ug/L	109	70 - 130	
1,1-Dichloropropene	ND		10.0	10.7		ug/L	107	64 - 130	
1,2,3-Trichlorobenzene	ND		10.0	8.50		ug/L	85	60 - 140	
1,2,3-Trichloropropane	ND		10.0	9.41		ug/L	94	60 - 130	
1,2,4-Trichlorobenzene	ND		10.0	8.59		ug/L	86	60 - 140	
1,2,4-Trimethylbenzene	ND		10.0	9.13		ug/L	91	70 - 130	
1,2-Dibromo-3-Chloropropane	ND		10.0	9.48		ug/L	95	48 - 140	
1,2-Dibromoethane (EDB)	ND		10.0	9.46		ug/L	95	70 - 131	
1,2-Dichlorobenzene	ND		10.0	9.38		ug/L	94	70 - 130	
1,2-Dichloroethane	ND		10.0	12.2		ug/L	122	56 - 146	
1,2-Dichloropropane	ND		10.0	8.40		ug/L	84	69 - 130	
1,3,5-Trimethylbenzene	ND		10.0	9.22		ug/L	92	70 - 130	
1,3-Dichlorobenzene	ND		10.0	9.18		ug/L	92	70 - 130	
1,3-Dichloropropane	ND		10.0	8.65		ug/L	86	70 - 130	
1,4-Dichlorobenzene	ND		10.0	9.56		ug/L	96	70 - 130	
2,2-Dichloropropane	ND	F1	10.0	14.0	F1	ug/L	140	69 - 138	
2-Chlorotoluene	ND		10.0	8.21		ug/L	82	70 - 130	
4-Chlorotoluene	ND		10.0	8.36		ug/L	84	70 - 130	
Acetone	32	*	50.0	101		ug/L	137	10 - 150	
Benzene	ND		10.0	9.05		ug/L	90	66 - 130	
Bromobenzene	ND		10.0	9.12		ug/L	91	70 - 130	
Bromochloromethane	ND		10.0	10.1		ug/L	101	70 - 130	
Bromodichloromethane	3.4		10.0	15.4		ug/L	120	70 - 138	
Bromoform	ND		10.0	12.3		ug/L	123	59 - 150	
Bromomethane	ND		10.0	10.6		ug/L	106	62 - 131	
Carbon tetrachloride	ND	* F1	10.0	15.9	F1	ug/L	159	60 - 150	
Chlorobenzene	ND		10.0	9.39		ug/L	94	70 - 130	
Chloroethane	ND		10.0	10.4		ug/L	104	68 - 130	
Chloroform	2.6	*	10.0	13.7		ug/L	111	70 - 130	
Chloromethane	ND		10.0	9.07		ug/L	91	39 - 144	
cis-1,2-Dichloroethene	ND		10.0	8.93		ug/L	89	70 - 130	
cis-1,3-Dichloropropene	ND		10.0	8.17		ug/L	82	70 - 133	
Dibromochloromethane	2.2		10.0	12.8		ug/L	106	70 - 148	
Dibromomethane	ND		10.0	10.9		ug/L	109	70 - 130	
Dichlorodifluoromethane	ND		10.0	12.1		ug/L	121	25 - 142	
Ethylbenzene	ND		10.0	8.92		ug/L	89	70 - 130	
Hexachlorobutadiene	ND		10.0	8.55		ug/L	85	10 - 150	
Isopropyl alcohol	ND		250	314		ug/L	126	46 - 142	
Isopropylbenzene	ND		10.0	9.62		ug/L	96	70 - 132	
m,p-Xylene	ND		10.0	9.33		ug/L	93	70 - 133	
Methylene Chloride	ND		10.0	8.14		ug/L	81	52 - 130	
Methyl-t-Butyl Ether (MTBE)	ND		10.0	8.89		ug/L	89	70 - 130	
Naphthalene	ND		10.0	8.41		ug/L	84	60 - 140	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 550-128175-A-1 MS

Matrix: Water

Analysis Batch: 564781

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
n-Butylbenzene	ND		10.0	8.47		ug/L		85	61 - 149
N-Propylbenzene	ND		10.0	8.45		ug/L		85	66 - 135
o-Xylene	ND		10.0	9.27		ug/L		93	70 - 133
p-Isopropyltoluene	ND		10.0	9.79		ug/L		98	70 - 130
sec-Butylbenzene	ND		10.0	8.71		ug/L		87	67 - 134
Styrene	ND		10.0	8.01		ug/L		80	29 - 150
tert-Butylbenzene	ND		10.0	9.29		ug/L		93	70 - 130
Tetrachloroethene	ND		10.0	11.3		ug/L		113	70 - 137
Toluene	ND		10.0	8.59		ug/L		86	70 - 130
trans-1,2-Dichloroethene	ND		10.0	8.51		ug/L		85	70 - 130
trans-1,3-Dichloropropene	ND		10.0	9.96		ug/L		100	70 - 138
Trichloroethene	ND		10.0	11.3		ug/L		113	70 - 130
Trichlorofluoromethane	ND * F1		10.0	16.2	F1	ug/L		162	60 - 150
Vinyl chloride	ND		10.0	10.1		ug/L		101	50 - 137
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	129		70 - 130						
4-Bromofluorobenzene (Surr)	88		80 - 120						
Dibromofluoromethane (Surr)	117		76 - 132						
Toluene-d8 (Surr)	90		80 - 128						

Lab Sample ID: 550-128175-A-1 MSD

Matrix: Water

Analysis Batch: 564781

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1,1,2-Tetrachloroethane	ND		10.0	11.3		ug/L		113	60 - 149	0	20
1,1,1-Trichloroethane	ND * F1		10.0	14.1	F1	ug/L		141	70 - 130	5	20
1,1,2,2-Tetrachloroethane	ND		10.0	8.56		ug/L		86	63 - 130	5	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	12.8		ug/L		128	60 - 140	2	20
1,1,2-Trichloroethane	ND		10.0	8.26		ug/L		83	70 - 130	0	25
1,1-Dichloroethane	ND		10.0	10.2		ug/L		102	65 - 130	8	20
1,1-Dichloroethene	ND		10.0	9.95		ug/L		100	70 - 130	9	20
1,1-Dichloropropene	ND		10.0	11.4		ug/L		114	64 - 130	6	20
1,2,3-Trichlorobenzene	ND		10.0	8.67		ug/L		87	60 - 140	2	20
1,2,3-Trichloropropane	ND		10.0	9.96		ug/L		100	60 - 130	6	30
1,2,4-Trichlorobenzene	ND		10.0	9.02		ug/L		90	60 - 140	5	20
1,2,4-Trimethylbenzene	ND		10.0	9.41		ug/L		94	70 - 130	3	25
1,2-Dibromo-3-Chloropropane	ND		10.0	8.69		ug/L		87	48 - 140	9	30
1,2-Dibromoethane (EDB)	ND		10.0	9.57		ug/L		96	70 - 131	1	25
1,2-Dichlorobenzene	ND		10.0	9.17		ug/L		92	70 - 130	2	20
1,2-Dichloroethane	ND		10.0	12.1		ug/L		121	56 - 146	1	20
1,2-Dichloropropane	ND		10.0	8.80		ug/L		88	69 - 130	5	20
1,3,5-Trimethylbenzene	ND		10.0	9.11		ug/L		91	70 - 130	1	20
1,3-Dichlorobenzene	ND		10.0	9.28		ug/L		93	70 - 130	1	20
1,3-Dichloropropane	ND		10.0	8.73		ug/L		87	70 - 130	1	25
1,4-Dichlorobenzene	ND		10.0	9.52		ug/L		95	70 - 130	0	20
2,2-Dichloropropane	ND F1		10.0	13.8		ug/L		138	69 - 138	1	25

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 550-128175-A-1 MSD

Matrix: Water

Analysis Batch: 564781

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	Limits	RPD	RPD Limit
2-Chlorotoluene	ND		10.0	8.52		ug/L	85	70 - 130		4	20
4-Chlorotoluene	ND		10.0	8.50		ug/L	85	70 - 130		2	20
Acetone	32 *		50.0	101		ug/L	138	10 - 150		1	35
Benzene	ND		10.0	9.31		ug/L	93	66 - 130		3	20
Bromobenzene	ND		10.0	9.29		ug/L	93	70 - 130		2	20
Bromochloromethane	ND		10.0	10.7		ug/L	107	70 - 130		6	25
Bromodichloromethane	3.4		10.0	14.8		ug/L	114	70 - 138		4	20
Bromoform	ND		10.0	12.8		ug/L	128	59 - 150		4	25
Bromomethane	ND		10.0	11.3		ug/L	113	62 - 131		6	25
Carbon tetrachloride	ND * F1		10.0	15.9	F1	ug/L	159	60 - 150		0	25
Chlorobenzene	ND		10.0	9.36		ug/L	94	70 - 130		0	20
Chloroethane	ND		10.0	11.5		ug/L	115	68 - 130		10	25
Chloroform	2.6 *		10.0	13.8		ug/L	113	70 - 130		1	20
Chloromethane	ND		10.0	9.50		ug/L	95	39 - 144		5	25
cis-1,2-Dichloroethene	ND		10.0	9.37		ug/L	94	70 - 130		5	20
cis-1,3-Dichloropropene	ND		10.0	8.81		ug/L	88	70 - 133		8	20
Dibromochloromethane	2.2		10.0	12.8		ug/L	106	70 - 148		0	25
Dibromomethane	ND		10.0	11.7		ug/L	117	70 - 130		7	25
Dichlorodifluoromethane	ND		10.0	12.3		ug/L	123	25 - 142		2	30
Ethylbenzene	ND		10.0	9.22		ug/L	92	70 - 130		3	20
Hexachlorobutadiene	ND		10.0	8.64		ug/L	86	10 - 150		1	20
Isopropyl alcohol	ND		250	318		ug/L	127	46 - 142		1	40
Isopropylbenzene	ND		10.0	9.66		ug/L	97	70 - 132		0	20
m,p-Xylene	ND		10.0	9.49		ug/L	95	70 - 133		2	25
Methylene Chloride	ND		10.0	8.24		ug/L	82	52 - 130		1	20
Methyl-t-Butyl Ether (MTBE)	ND		10.0	9.41		ug/L	94	70 - 130		6	25
Naphthalene	ND		10.0	8.07		ug/L	81	60 - 140		4	30
n-Butylbenzene	ND		10.0	8.51		ug/L	85	61 - 149		0	20
N-Propylbenzene	ND		10.0	8.79		ug/L	88	66 - 135		4	20
o-Xylene	ND		10.0	9.60		ug/L	96	70 - 133		4	20
p-Isopropyltoluene	ND		10.0	9.13		ug/L	91	70 - 130		7	20
sec-Butylbenzene	ND		10.0	8.94		ug/L	89	67 - 134		3	20
Styrene	ND		10.0	8.24		ug/L	82	29 - 150		3	35
tert-Butylbenzene	ND		10.0	8.97		ug/L	90	70 - 130		4	20
Tetrachloroethene	ND		10.0	11.2		ug/L	112	70 - 137		1	20
Toluene	ND		10.0	8.73		ug/L	87	70 - 130		2	20
trans-1,2-Dichloroethene	ND		10.0	9.22		ug/L	92	70 - 130		8	20
trans-1,3-Dichloropropene	ND		10.0	9.34		ug/L	93	70 - 138		6	25
Trichloroethene	ND		10.0	11.2		ug/L	112	70 - 130		1	20
Trichlorofluoromethane	ND * F1		10.0	16.3	F1	ug/L	163	60 - 150		1	25
Vinyl chloride	ND		10.0	10.1		ug/L	101	50 - 137		1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	120		70 - 130
4-Bromofluorobenzene (Surr)	86		80 - 120
Dibromofluoromethane (Surr)	117		76 - 132
Toluene-d8 (Surr)	90		80 - 128

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-565018/5

Matrix: Water

Analysis Batch: 565018

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	ND		10	10	ug/L			08/23/19 08:47	1
Isopropyl alcohol	ND		250	180	ug/L			08/23/19 08:47	1
Trichlorofluoromethane	ND		1.0	0.25	ug/L			08/23/19 08:47	1

Tentatively Identified Compound	MB	MB	Est. Result	Qualifier	Unit	D	RT	CAS No.	Prepared	Analyzed	Dil Fac
	Result	Qualifier									
Tentatively Identified Compound	None				ug/L					08/23/19 08:47	1

Surrogate	MB	MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1,2-Dichloroethane-d4 (Surr)	100		70 - 130				08/23/19 08:47	1
4-Bromofluorobenzene (Surr)	98		80 - 120				08/23/19 08:47	1
Dibromofluoromethane (Surr)	104		76 - 132				08/23/19 08:47	1
Toluene-d8 (Surr)	101		80 - 128				08/23/19 08:47	1

Lab Sample ID: LCS 440-565018/6

Matrix: Water

Analysis Batch: 565018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spikes	Spikes	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	LCS
	Added	Added							
Acetone		50.0	48.6		ug/L		97	10 - 150	
Trichlorofluoromethane		10.0	9.51		ug/L		95	60 - 150	

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1,2-Dichloroethane-d4 (Surr)	98		70 - 130					
4-Bromofluorobenzene (Surr)	102		80 - 120					
Dibromofluoromethane (Surr)	100		76 - 132					
Toluene-d8 (Surr)	97		80 - 128					

Lab Sample ID: 440-248385-4 MS

Matrix: Water

Analysis Batch: 565018

Client Sample ID: OC_GW_OW-10_20190820
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	D	%Rec	%Rec. Limits	MS
	Result	Qualifier	Added	Result	Qualifier				
Acetone	ND		50.0	45.5			91	10 - 150	
Trichlorofluoromethane	3.3		10.0	14.7			114	60 - 150	

Surrogate	MS	MS	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
1,2-Dichloroethane-d4 (Surr)	100		70 - 130					
4-Bromofluorobenzene (Surr)	96		80 - 120					
Dibromofluoromethane (Surr)	101		76 - 132					
Toluene-d8 (Surr)	99		80 - 128					

Lab Sample ID: 440-248385-4 MSD

Matrix: Water

Analysis Batch: 565018

Client Sample ID: OC_GW_OW-10_20190820
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	D	%Rec	%Rec. Limits	MSD
	Result	Qualifier	Added	Result	Qualifier				
Acetone	ND		50.0	45.4			91	10 - 150	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248385-4 MSD

Matrix: Water

Analysis Batch: 565018

Client Sample ID: OC_GW_OW-10_20190820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD
Trichlorofluoromethane	3.3		10.0	13.7		ug/L		104	60 - 150
Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits					Limits	Limit
1,2-Dichloroethane-d4 (Surr)	94		70 - 130						
4-Bromofluorobenzene (Surr)	98		80 - 120						
Dibromofluoromethane (Surr)	97		76 - 132						
Toluene-d8 (Surr)	100		80 - 128						

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 440-564850/1-A

Matrix: Water

Analysis Batch: 565069

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 564850

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	0.10	ug/L		08/22/19 10:30	08/23/19 10:35	1
Surrogate	MB %Recovery	MB Qualifier	MB Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	34		27 - 120				08/22/19 10:30	08/23/19 10:35	1

Lab Sample ID: LCS 440-564850/2-A

Matrix: Water

Analysis Batch: 565069

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 564850

Analyte		Spike Added	LCSS Result	LCSS Qualifier	Unit	D	%Rec.	Limits
1,4-Dioxane		2.00	0.734		ug/L		37	36 - 120
Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits				Limits	
1,4-Dioxane-d8 (Surr)	36		27 - 120					

Lab Sample ID: 440-248432-J-4-A MSD

Matrix: Water

Analysis Batch: 565069

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 564850

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD
1,4-Dioxane	110		1.97	136	4	ug/L		1246	10 - 150
Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits					Limits	Limit
1,4-Dioxane-d8 (Surr)	58		27 - 120						

Lab Sample ID: 440-248432-K-4-A MS

Matrix: Water

Analysis Batch: 565069

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 564850

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec.
1,4-Dioxane	110		1.96	118	4	ug/L		342

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Method: 8270C SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: 440-248432-K-4-A MS

Matrix: Water

Analysis Batch: 565069

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 564850

Surrogate	MS	MS	%Recovery	Qualifier	Limits
1,4-Dioxane-d8 (Surr)			68		27 - 120

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QC Association Summary

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1
 SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 564781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248385-1	OC_GW_OW-8_20190820	Total/NA	Water	8260B	
440-248385-2	OC_GW_OW-8B_20190820	Total/NA	Water	8260B	
440-248385-3	OC_GW_OW-9_20190820	Total/NA	Water	8260B	
440-248385-3 - DL	OC_GW_OW-9_20190820	Total/NA	Water	8260B	
440-248385-4	OC_GW_OW-10_20190820	Total/NA	Water	8260B	
440-248385-5	OC_GW_OW-8B_20190820N	Total/NA	Water	8260B	
440-248385-6	OC_TB1_20190820	Total/NA	Water	8260B	
MB 440-564781/4	Method Blank	Total/NA	Water	8260B	
LCS 440-564781/1003	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-564781/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 440-564781/6	Lab Control Sample Dup	Total/NA	Water	8260B	
550-128175-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
550-128175-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 565018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248385-4 - RA	OC_GW_OW-10_20190820	Total/NA	Water	8260B	
440-248385-5 - RA	OC_GW_OW-8B_20190820N	Total/NA	Water	8260B	
MB 440-565018/5	Method Blank	Total/NA	Water	8260B	
LCS 440-565018/6	Lab Control Sample	Total/NA	Water	8260B	
440-248385-4 MS	OC_GW_OW-10_20190820	Total/NA	Water	8260B	
440-248385-4 MSD	OC_GW_OW-10_20190820	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 564850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248385-1	OC_GW_OW-8_20190820	Total/NA	Water	3520C	
440-248385-2	OC_GW_OW-8B_20190820	Total/NA	Water	3520C	
440-248385-3	OC_GW_OW-9_20190820	Total/NA	Water	3520C	
440-248385-4	OC_GW_OW-10_20190820	Total/NA	Water	3520C	
MB 440-564850/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-564850/2-A	Lab Control Sample	Total/NA	Water	3520C	
440-248432-J-4-A MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	
440-248432-K-4-A MS	Matrix Spike	Total/NA	Water	3520C	

Analysis Batch: 565069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248385-1	OC_GW_OW-8_20190820	Total/NA	Water	8270C SIM	564850
440-248385-2	OC_GW_OW-8B_20190820	Total/NA	Water	8270C SIM	564850
440-248385-3	OC_GW_OW-9_20190820	Total/NA	Water	8270C SIM	564850
440-248385-4	OC_GW_OW-10_20190820	Total/NA	Water	8270C SIM	564850
MB 440-564850/1-A	Method Blank	Total/NA	Water	8270C SIM	564850
LCS 440-564850/2-A	Lab Control Sample	Total/NA	Water	8270C SIM	564850
440-248432-J-4-A MSD	Matrix Spike Duplicate	Total/NA	Water	8270C SIM	564850
440-248432-K-4-A MS	Matrix Spike	Total/NA	Water	8270C SIM	564850

Definitions/Glossary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1
SDG: Omega Chemical

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS VOA TICs

Qualifier	Qualifier Description
J	Indicates an Estimated Value for TICs
T	Result is a tentatively identified compound (TIC) and an estimated value.

GC/MS Semi VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation

These commonly used abbreviations may or may not be present in this report.

□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chem. - 2019 Semi-Ann. GWM

Job ID: 440-248385-1

SDG: Omega Chemical

Laboratory: Eurofins TestAmerica, Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State Program	CA ELAP 2706	06-30-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8270C SIM	3520C	Water	1,4-Dioxane

TestAmerica Irvine

17461 Delian Ave

Suite 100

Irvine, CA 92614

phone 949.261.1022 fax

Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Project Manager: Trent Henderson

Tel/Fax: (949) 453-1047 / (949) 453-1047

Analysis Turnaround Time

Site Contact: Khalid Azhar

Date: 8/20/19

Carrier:

COC No: 1 of 1 COCs

For Lab Use Only: _____

Sampler: _____

Walk-in Client: _____

Lab Sampling: _____

Job / SDG No.: _____

EPA 8270C - 1,4-Dioxane

EPA 8260B - VOCs + Frenes

Preferred MSD / MSD (Y / N)

Perfomt MS / MSD (Y / N)

Preferred Sample (Y / N)

Sample Specific Notes: _____

Sample Identification

Sample Date

Sample Time

Sample Type

(c=Comb.
g=Grav.)

Matrix

of Cont.

Grab

GW

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x x

Grab

Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-248385-1
SDG Number: Omega Chemical

Login Number: 248385

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True		
The cooler's custody seal, if present, is intact.	N/A	Not present	
Sample custody seals, if present, are intact.	N/A	Not Present	
The cooler or samples do not appear to have been compromised or tampered with.	True		
Samples were received on ice.	True		
Cooler Temperature is acceptable.	True		
Cooler Temperature is recorded.	True		
COC is present.	True		
COC is filled out in ink and legible.	True		
COC is filled out with all pertinent information.	True		
Is the Field Sampler's name present on COC?	False	Refer to Job Narrative for details.	
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		



ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

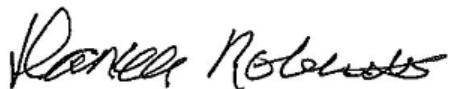
Laboratory Job ID: 440-249611-1

Laboratory Sample Delivery Group: Omega Chemical
Client Project/Site: Omega Chemical - GWCS Monthly

For:

Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson



Authorized for release by:
9/15/2019 8:04:22 AM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
SDG: Omega Chemical

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-249611-1	OC_SP220B_EFF_090519	Water	09/05/19 14:20	09/06/19 18:05	
440-249611-2	OC_SP210_INF_090519	Water	09/05/19 14:30	09/06/19 18:05	
440-249611-3	OC_TB_090519	Water	09/05/19 14:00	09/06/19 18:05	

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Case Narrative

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
SDG: Omega Chemical

Job ID: 440-249611-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-249611-1

Comments

No additional comments.

Receipt

The samples were received on 9/6/2019 6:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1° C.

GC/MS VOA

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 440-568257 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 440-567555. LCS was performed in duplicate to provide precision of data.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_090519

Lab Sample ID: 440-249611-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	14		0.49	ug/L	1		8270C SIM	Total/NA

Client Sample ID: OC_SP210_INF_090519

Lab Sample ID: 440-249611-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	44		1.0	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	2.5		1.0	ug/L	1		8260B	Total/NA
Chloroform	15		1.0	ug/L	1		8260B	Total/NA
Trichloroethene	33		1.0	ug/L	1		8260B	Total/NA
Trichlorofluoromethane	24		1.0	ug/L	1		8260B	Total/NA
Tetrachloroethylene - DL	210		10	ug/L	10		8260B	Total/NA
1,1,2-Trichloro-1,2,2-trifluoroethane - RA	99		5.0	ug/L	1		8260B	Total/NA

Client Sample ID: OC_TB_090519

Lab Sample ID: 440-249611-3

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_090519

Lab Sample ID: 440-249611-1

Matrix: Water

Date Collected: 09/05/19 14:20

Date Received: 09/06/19 18:05

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L		09/10/19 17:23		1
1,1,1-Trichloroethane	ND		1.0	ug/L		09/10/19 17:23		1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L		09/10/19 17:23		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L		09/10/19 17:23		1
1,1,2-Trichloroethane	ND		1.0	ug/L		09/10/19 17:23		1
1,1-Dichloroethane	ND		1.0	ug/L		09/10/19 17:23		1
1,1-Dichloroethene	ND		1.0	ug/L		09/10/19 17:23		1
1,1-Dichloropropene	ND		1.0	ug/L		09/10/19 17:23		1
1,2,3-Trichlorobenzene	ND		1.0	ug/L		09/10/19 17:23		1
1,2,3-Trichloropropane	ND		1.0	ug/L		09/10/19 17:23		1
1,2,4-Trichlorobenzene	ND		1.0	ug/L		09/10/19 17:23		1
1,2,4-Trimethylbenzene	ND		1.0	ug/L		09/10/19 17:23		1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L		09/10/19 17:23		1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		09/10/19 17:23		1
1,2-Dichlorobenzene	ND		1.0	ug/L		09/10/19 17:23		1
1,2-Dichloroethane	ND		1.0	ug/L		09/10/19 17:23		1
1,2-Dichloropropene	ND		1.0	ug/L		09/10/19 17:23		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		09/10/19 17:23		1
1,3-Dichlorobenzene	ND		1.0	ug/L		09/10/19 17:23		1
1,3-Dichloropropane	ND		1.0	ug/L		09/10/19 17:23		1
1,4-Dichlorobenzene	ND		1.0	ug/L		09/10/19 17:23		1
2,2-Dichloropropane	ND		1.0	ug/L		09/10/19 17:23		1
2-Chlorotoluene	ND		1.0	ug/L		09/10/19 17:23		1
4-Chlorotoluene	ND		1.0	ug/L		09/10/19 17:23		1
Acetone	ND		10	ug/L		09/10/19 17:23		1
Benzene	ND		0.50	ug/L		09/10/19 17:23		1
Bromobenzene	ND		1.0	ug/L		09/10/19 17:23		1
Bromochloromethane	ND		1.0	ug/L		09/10/19 17:23		1
Bromodichloromethane	ND		1.0	ug/L		09/10/19 17:23		1
Bromoform	ND		1.0	ug/L		09/10/19 17:23		1
Bromomethane	ND		1.0	ug/L		09/10/19 17:23		1
Carbon tetrachloride	ND		0.50	ug/L		09/10/19 17:23		1
Chlorobenzene	ND		1.0	ug/L		09/10/19 17:23		1
Chloroethane	ND		1.0	ug/L		09/10/19 17:23		1
Chloroform	ND		1.0	ug/L		09/10/19 17:23		1
Chloromethane	ND		1.0	ug/L		09/10/19 17:23		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		09/10/19 17:23		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		09/10/19 17:23		1
Dibromochloromethane	ND		1.0	ug/L		09/10/19 17:23		1
Dibromomethane	ND		1.0	ug/L		09/10/19 17:23		1
Dichlorodifluoromethane	ND		1.0	ug/L		09/10/19 17:23		1
Ethylbenzene	ND		1.0	ug/L		09/10/19 17:23		1
Hexachlorobutadiene	ND		1.0	ug/L		09/10/19 17:23		1
Isopropylbenzene	ND		1.0	ug/L		09/10/19 17:23		1
m,p-Xylene	ND		1.0	ug/L		09/10/19 17:23		1
Methylene Chloride	ND		5.0	ug/L		09/10/19 17:23		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		09/10/19 17:23		1
Naphthalene	ND		1.0	ug/L		09/10/19 17:23		1
n-Butylbenzene	ND		1.0	ug/L		09/10/19 17:23		1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_090519

Lab Sample ID: 440-249611-1

Matrix: Water

Date Collected: 09/05/19 14:20

Date Received: 09/06/19 18:05

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		1.0	ug/L			09/10/19 17:23	1
o-Xylene	ND		1.0	ug/L			09/10/19 17:23	1
p-Isopropyltoluene	ND		1.0	ug/L			09/10/19 17:23	1
sec-Butylbenzene	ND		1.0	ug/L			09/10/19 17:23	1
Styrene	ND		1.0	ug/L			09/10/19 17:23	1
tert-Butylbenzene	ND		1.0	ug/L			09/10/19 17:23	1
Tetrachloroethene	ND		1.0	ug/L			09/10/19 17:23	1
Toluene	ND		1.0	ug/L			09/10/19 17:23	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			09/10/19 17:23	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			09/10/19 17:23	1
Trichloroethene	ND		1.0	ug/L			09/10/19 17:23	1
Trichlorofluoromethane	ND		1.0	ug/L			09/10/19 17:23	1
Vinyl chloride	ND		0.50	ug/L			09/10/19 17:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 130				09/10/19 17:23	1
4-Bromofluorobenzene (Surr)	99		80 - 120				09/10/19 17:23	1
Dibromofluoromethane (Surr)	105		76 - 132				09/10/19 17:23	1
Toluene-d8 (Surr)	97		80 - 128				09/10/19 17:23	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	ug/L			09/11/19 00:28	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 130				09/11/19 00:28	1
4-Bromofluorobenzene (Surr)	105		80 - 120				09/11/19 00:28	1
Dibromofluoromethane (Surr)	99		76 - 132				09/11/19 00:28	1
Toluene-d8 (Surr)	103		80 - 128				09/11/19 00:28	1

Method: 8270C SIM - 1,4 Dioxane by SIM

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	14		0.49	ug/L		09/08/19 11:52	09/09/19 17:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	46		27 - 120			09/08/19 11:52	09/09/19 17:05	1

Client Sample ID: OC_SP210_INF_090519

Lab Sample ID: 440-249611-2

Matrix: Water

Date Collected: 09/05/19 14:30

Date Received: 09/06/19 18:05

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			09/11/19 14:17	1
1,1,1-Trichloroethane	ND		1.0	ug/L			09/11/19 14:17	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			09/11/19 14:17	1
1,1,2-Trichloroethane	ND		1.0	ug/L			09/11/19 14:17	1
1,1-Dichloroethane	ND		1.0	ug/L			09/11/19 14:17	1
1,1-Dichloroethene	44		1.0	ug/L			09/11/19 14:17	1
1,1-Dichloropropene	ND		1.0	ug/L			09/11/19 14:17	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			09/11/19 14:17	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Client Sample ID: OC_SP210_INF_090519

Lab Sample ID: 440-249611-2

Matrix: Water

Date Collected: 09/05/19 14:30

Date Received: 09/06/19 18:05

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	ug/L		09/11/19 14:17		1
1,2,4-Trichlorobenzene	ND		1.0	ug/L		09/11/19 14:17		1
1,2,4-Trimethylbenzene	ND		1.0	ug/L		09/11/19 14:17		1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L		09/11/19 14:17		1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		09/11/19 14:17		1
1,2-Dichlorobenzene	ND		1.0	ug/L		09/11/19 14:17		1
1,2-Dichloroethane	2.5		1.0	ug/L		09/11/19 14:17		1
1,2-Dichloropropane	ND		1.0	ug/L		09/11/19 14:17		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		09/11/19 14:17		1
1,3-Dichlorobenzene	ND		1.0	ug/L		09/11/19 14:17		1
1,3-Dichloropropane	ND		1.0	ug/L		09/11/19 14:17		1
1,4-Dichlorobenzene	ND		1.0	ug/L		09/11/19 14:17		1
2,2-Dichloropropane	ND		1.0	ug/L		09/11/19 14:17		1
2-Chlorotoluene	ND		1.0	ug/L		09/11/19 14:17		1
4-Chlorotoluene	ND		1.0	ug/L		09/11/19 14:17		1
Acetone	ND		10	ug/L		09/11/19 14:17		1
Benzene	ND		0.50	ug/L		09/11/19 14:17		1
Bromobenzene	ND		1.0	ug/L		09/11/19 14:17		1
Bromochloromethane	ND		1.0	ug/L		09/11/19 14:17		1
Bromodichloromethane	ND		1.0	ug/L		09/11/19 14:17		1
Bromoform	ND		1.0	ug/L		09/11/19 14:17		1
Bromomethane	ND		1.0	ug/L		09/11/19 14:17		1
Carbon tetrachloride	ND		0.50	ug/L		09/11/19 14:17		1
Chlorobenzene	ND		1.0	ug/L		09/11/19 14:17		1
Chloroethane	ND		1.0	ug/L		09/11/19 14:17		1
Chloroform	15		1.0	ug/L		09/11/19 14:17		1
Chloromethane	ND		1.0	ug/L		09/11/19 14:17		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		09/11/19 14:17		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		09/11/19 14:17		1
Dibromochloromethane	ND		1.0	ug/L		09/11/19 14:17		1
Dibromomethane	ND		1.0	ug/L		09/11/19 14:17		1
Dichlorodifluoromethane	ND		1.0	ug/L		09/11/19 14:17		1
Ethylbenzene	ND		1.0	ug/L		09/11/19 14:17		1
Hexachlorobutadiene	ND		1.0	ug/L		09/11/19 14:17		1
Isopropylbenzene	ND		1.0	ug/L		09/11/19 14:17		1
m,p-Xylene	ND		1.0	ug/L		09/11/19 14:17		1
Methylene Chloride	ND		5.0	ug/L		09/11/19 14:17		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		09/11/19 14:17		1
Naphthalene	ND		1.0	ug/L		09/11/19 14:17		1
n-Butylbenzene	ND		1.0	ug/L		09/11/19 14:17		1
N-Propylbenzene	ND		1.0	ug/L		09/11/19 14:17		1
o-Xylene	ND		1.0	ug/L		09/11/19 14:17		1
p-Isopropyltoluene	ND		1.0	ug/L		09/11/19 14:17		1
sec-Butylbenzene	ND		1.0	ug/L		09/11/19 14:17		1
Styrene	ND		1.0	ug/L		09/11/19 14:17		1
tert-Butylbenzene	ND		1.0	ug/L		09/11/19 14:17		1
Toluene	ND		1.0	ug/L		09/11/19 14:17		1
trans-1,2-Dichloroethene	ND		1.0	ug/L		09/11/19 14:17		1
trans-1,3-Dichloropropene	ND		0.50	ug/L		09/11/19 14:17		1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Client Sample ID: OC_SP210_INF_090519

Lab Sample ID: 440-249611-2

Matrix: Water

Date Collected: 09/05/19 14:30

Date Received: 09/06/19 18:05

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	33		1.0	ug/L			09/11/19 14:17	1
Trichlorofluoromethane	24		1.0	ug/L			09/11/19 14:17	1
Vinyl chloride	ND		0.50	ug/L			09/11/19 14:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 130				09/11/19 14:17	1
4-Bromofluorobenzene (Surr)	101		80 - 120				09/11/19 14:17	1
Dibromofluoromethane (Surr)	105		76 - 132				09/11/19 14:17	1
Toluene-d8 (Surr)	100		80 - 128				09/11/19 14:17	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	210		10	ug/L			09/12/19 03:37	10
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 130				09/12/19 03:37	10
4-Bromofluorobenzene (Surr)	96		80 - 120				09/12/19 03:37	10
Dibromofluoromethane (Surr)	97		76 - 132				09/12/19 03:37	10
Toluene-d8 (Surr)	105		80 - 128				09/12/19 03:37	10

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	99		5.0	ug/L			09/12/19 03:10	1
Isopropyl alcohol	ND		250	ug/L			09/12/19 03:10	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 130				09/12/19 03:10	1
4-Bromofluorobenzene (Surr)	99		80 - 120				09/12/19 03:10	1
Dibromofluoromethane (Surr)	95		76 - 132				09/12/19 03:10	1
Toluene-d8 (Surr)	100		80 - 128				09/12/19 03:10	1

Client Sample ID: OC_TB_090519

Lab Sample ID: 440-249611-3

Matrix: Water

Date Collected: 09/05/19 14:00

Date Received: 09/06/19 18:05

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			09/10/19 17:54	1
1,1,1-Trichloroethane	ND		1.0	ug/L			09/10/19 17:54	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			09/10/19 17:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			09/10/19 17:54	1
1,1,2-Trichloroethane	ND		1.0	ug/L			09/10/19 17:54	1
1,1-Dichloroethane	ND		1.0	ug/L			09/10/19 17:54	1
1,1-Dichloroethene	ND		1.0	ug/L			09/10/19 17:54	1
1,1-Dichloropropene	ND		1.0	ug/L			09/10/19 17:54	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			09/10/19 17:54	1
1,2,3-Trichloropropane	ND		1.0	ug/L			09/10/19 17:54	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			09/10/19 17:54	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			09/10/19 17:54	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			09/10/19 17:54	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Client Sample ID: OC_TB_090519

Date Collected: 09/05/19 14:00

Date Received: 09/06/19 18:05

Lab Sample ID: 440-249611-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		09/10/19 17:54		1
1,2-Dichlorobenzene	ND		1.0	ug/L		09/10/19 17:54		1
1,2-Dichloroethane	ND		1.0	ug/L		09/10/19 17:54		1
1,2-Dichloropropane	ND		1.0	ug/L		09/10/19 17:54		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		09/10/19 17:54		1
1,3-Dichlorobenzene	ND		1.0	ug/L		09/10/19 17:54		1
1,3-Dichloropropane	ND		1.0	ug/L		09/10/19 17:54		1
1,4-Dichlorobenzene	ND		1.0	ug/L		09/10/19 17:54		1
2,2-Dichloropropane	ND		1.0	ug/L		09/10/19 17:54		1
2-Chlorotoluene	ND		1.0	ug/L		09/10/19 17:54		1
4-Chlorotoluene	ND		1.0	ug/L		09/10/19 17:54		1
Acetone	ND		10	ug/L		09/10/19 17:54		1
Benzene	ND		0.50	ug/L		09/10/19 17:54		1
Bromobenzene	ND		1.0	ug/L		09/10/19 17:54		1
Bromochloromethane	ND		1.0	ug/L		09/10/19 17:54		1
Bromodichloromethane	ND		1.0	ug/L		09/10/19 17:54		1
Bromoform	ND		1.0	ug/L		09/10/19 17:54		1
Bromomethane	ND		1.0	ug/L		09/10/19 17:54		1
Carbon tetrachloride	ND		0.50	ug/L		09/10/19 17:54		1
Chlorobenzene	ND		1.0	ug/L		09/10/19 17:54		1
Chloroethane	ND		1.0	ug/L		09/10/19 17:54		1
Chloroform	ND		1.0	ug/L		09/10/19 17:54		1
Chloromethane	ND		1.0	ug/L		09/10/19 17:54		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		09/10/19 17:54		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		09/10/19 17:54		1
Dibromochloromethane	ND		1.0	ug/L		09/10/19 17:54		1
Dibromomethane	ND		1.0	ug/L		09/10/19 17:54		1
Dichlorodifluoromethane	ND		1.0	ug/L		09/10/19 17:54		1
Ethylbenzene	ND		1.0	ug/L		09/10/19 17:54		1
Hexachlorobutadiene	ND		1.0	ug/L		09/10/19 17:54		1
Isopropylbenzene	ND		1.0	ug/L		09/10/19 17:54		1
m,p-Xylene	ND		1.0	ug/L		09/10/19 17:54		1
Methylene Chloride	ND		5.0	ug/L		09/10/19 17:54		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		09/10/19 17:54		1
Naphthalene	ND		1.0	ug/L		09/10/19 17:54		1
n-Butylbenzene	ND		1.0	ug/L		09/10/19 17:54		1
N-Propylbenzene	ND		1.0	ug/L		09/10/19 17:54		1
o-Xylene	ND		1.0	ug/L		09/10/19 17:54		1
p-Isopropyltoluene	ND		1.0	ug/L		09/10/19 17:54		1
sec-Butylbenzene	ND		1.0	ug/L		09/10/19 17:54		1
Styrene	ND		1.0	ug/L		09/10/19 17:54		1
tert-Butylbenzene	ND		1.0	ug/L		09/10/19 17:54		1
Tetrachloroethene	ND		1.0	ug/L		09/10/19 17:54		1
Toluene	ND		1.0	ug/L		09/10/19 17:54		1
trans-1,2-Dichloroethene	ND		1.0	ug/L		09/10/19 17:54		1
trans-1,3-Dichloropropene	ND		0.50	ug/L		09/10/19 17:54		1
Trichloroethene	ND		1.0	ug/L		09/10/19 17:54		1
Trichlorofluoromethane	ND		1.0	ug/L		09/10/19 17:54		1
Vinyl chloride	ND		0.50	ug/L		09/10/19 17:54		1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Client Sample ID: OC_TB_090519

Lab Sample ID: 440-249611-3

Matrix: Water

Date Collected: 09/05/19 14:00
 Date Received: 09/06/19 18:05

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 130		09/10/19 17:54	1
4-Bromofluorobenzene (Surr)	97		80 - 120		09/10/19 17:54	1
Dibromofluoromethane (Surr)	103		76 - 132		09/10/19 17:54	1
Toluene-d8 (Surr)	101		80 - 128		09/10/19 17:54	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	ug/L			09/11/19 01:49	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		70 - 130				09/11/19 01:49	1
4-Bromofluorobenzene (Surr)	104		80 - 120				09/11/19 01:49	1
Dibromofluoromethane (Surr)	100		76 - 132				09/11/19 01:49	1
Toluene-d8 (Surr)	101		80 - 128				09/11/19 01:49	1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-249277-A-14 MS	Matrix Spike	98	101	96	97
440-249277-A-14 MSD	Matrix Spike Duplicate	98	101	99	98
440-249611-1	OC_SP220B_EFF_090519	105	99	105	97
440-249611-1 - RA	OC_SP220B_EFF_090519	86	105	99	103
440-249611-1 MS	OC_SP220B_EFF_090519	91	103	99	98
440-249611-1 MSD	OC_SP220B_EFF_090519	86	108	99	98
440-249611-2	OC_SP210_INF_090519	105	101	105	100
440-249611-2 - RA	OC_SP210_INF_090519	89	99	95	100
440-249611-2 - DL	OC_SP210_INF_090519	92	96	97	105
440-249611-3	OC_TB_090519	107	97	103	101
440-249611-3 - RA	OC_TB_090519	90	104	100	101
440-249696-C-1 MS	Matrix Spike	89	97	96	102
440-249696-C-1 MSD	Matrix Spike Duplicate	93	96	100	99
440-249699-B-5 MS	Matrix Spike	100	99	100	96
440-249699-B-5 MSD	Matrix Spike Duplicate	100	102	98	96
LCS 440-567792/4	Lab Control Sample	96	102	96	95
LCS 440-568017/1003	Lab Control Sample	94	103	101	100
LCS 440-568051/5	Lab Control Sample	102	104	100	94
LCS 440-568257/1003	Lab Control Sample	92	102	96	102
LCS 440-568257/5	Lab Control Sample	97	101	100	104
MB 440-567792/5	Method Blank	99	98	99	100
MB 440-568017/4	Method Blank	89	103	101	98
MB 440-568051/4	Method Blank	104	101	99	102
MB 440-568257/4	Method Blank	96	99	99	105

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8270C SIM - 1,4 Dioxane by SIM

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DXE (27-120)			
440-249611-1	OC_SP220B_EFF_090519	46			
LCS 440-567555/3-A	Lab Control Sample	52			
LCSD 440-567555/4-A	Lab Control Sample Dup	50			
MB 440-567555/1-A	Method Blank	29			

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
SDG: Omega Chemical

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	1,4 Dioxane by SIM	SW846	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Client Sample ID: OC_SP220B_EFF_090519

Lab Sample ID: 440-249611-1

Matrix: Water

Date Collected: 09/05/19 14:20

Date Received: 09/06/19 18:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	567792	09/10/19 17:23	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	568017	09/11/19 00:28	WC	TAL IRV
Total/NA	Prep	3520C			1015 mL	1.0 mL	567555	09/08/19 11:52	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			567607	09/09/19 17:05	YCL	TAL IRV

Client Sample ID: OC_SP210_INF_090519

Lab Sample ID: 440-249611-2

Matrix: Water

Date Collected: 09/05/19 14:30

Date Received: 09/06/19 18:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	568051	09/11/19 14:17	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	568257	09/12/19 03:10	GMA	TAL IRV
Total/NA	Analysis	8260B	DL	10	10 mL	10 mL	568257	09/12/19 03:37	GMA	TAL IRV

Client Sample ID: OC_TB_090519

Lab Sample ID: 440-249611-3

Matrix: Water

Date Collected: 09/05/19 14:00

Date Received: 09/06/19 18:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	567792	09/10/19 17:54	RM	TAL IRV
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	568017	09/11/19 01:49	WC	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-567792/5

Matrix: Water

Analysis Batch: 567792

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L		09/10/19 08:36		1
1,1,1-Trichloroethane	ND		1.0	ug/L		09/10/19 08:36		1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L		09/10/19 08:36		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L		09/10/19 08:36		1
1,1,2-Trichloroethane	ND		1.0	ug/L		09/10/19 08:36		1
1,1-Dichloroethane	ND		1.0	ug/L		09/10/19 08:36		1
1,1-Dichloroethene	ND		1.0	ug/L		09/10/19 08:36		1
1,1-Dichloropropene	ND		1.0	ug/L		09/10/19 08:36		1
1,2,3-Trichlorobenzene	ND		1.0	ug/L		09/10/19 08:36		1
1,2,3-Trichloropropane	ND		1.0	ug/L		09/10/19 08:36		1
1,2,4-Trichlorobenzene	ND		1.0	ug/L		09/10/19 08:36		1
1,2,4-Trimethylbenzene	ND		1.0	ug/L		09/10/19 08:36		1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L		09/10/19 08:36		1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		09/10/19 08:36		1
1,2-Dichlorobenzene	ND		1.0	ug/L		09/10/19 08:36		1
1,2-Dichloroethane	ND		1.0	ug/L		09/10/19 08:36		1
1,2-Dichloropropane	ND		1.0	ug/L		09/10/19 08:36		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		09/10/19 08:36		1
1,3-Dichlorobenzene	ND		1.0	ug/L		09/10/19 08:36		1
1,3-Dichloropropane	ND		1.0	ug/L		09/10/19 08:36		1
1,4-Dichlorobenzene	ND		1.0	ug/L		09/10/19 08:36		1
2,2-Dichloropropane	ND		1.0	ug/L		09/10/19 08:36		1
2-Chlorotoluene	ND		1.0	ug/L		09/10/19 08:36		1
4-Chlorotoluene	ND		1.0	ug/L		09/10/19 08:36		1
Acetone	ND		10	ug/L		09/10/19 08:36		1
Benzene	ND		0.50	ug/L		09/10/19 08:36		1
Bromobenzene	ND		1.0	ug/L		09/10/19 08:36		1
Bromochloromethane	ND		1.0	ug/L		09/10/19 08:36		1
Bromodichloromethane	ND		1.0	ug/L		09/10/19 08:36		1
Bromoform	ND		1.0	ug/L		09/10/19 08:36		1
Bromomethane	ND		1.0	ug/L		09/10/19 08:36		1
Carbon tetrachloride	ND		0.50	ug/L		09/10/19 08:36		1
Chlorobenzene	ND		1.0	ug/L		09/10/19 08:36		1
Chloroethane	ND		1.0	ug/L		09/10/19 08:36		1
Chloroform	ND		1.0	ug/L		09/10/19 08:36		1
Chloromethane	ND		1.0	ug/L		09/10/19 08:36		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		09/10/19 08:36		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		09/10/19 08:36		1
Dibromochloromethane	ND		1.0	ug/L		09/10/19 08:36		1
Dibromomethane	ND		1.0	ug/L		09/10/19 08:36		1
Dichlorodifluoromethane	ND		1.0	ug/L		09/10/19 08:36		1
Ethylbenzene	ND		1.0	ug/L		09/10/19 08:36		1
Hexachlorobutadiene	ND		1.0	ug/L		09/10/19 08:36		1
Isopropylbenzene	ND		1.0	ug/L		09/10/19 08:36		1
m,p-Xylene	ND		1.0	ug/L		09/10/19 08:36		1
Methylene Chloride	ND		5.0	ug/L		09/10/19 08:36		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		09/10/19 08:36		1
Naphthalene	ND		1.0	ug/L		09/10/19 08:36		1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-567792/5

Matrix: Water

Analysis Batch: 567792

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
n-Butylbenzene	ND		1.0	ug/L			09/10/19 08:36	1
N-Propylbenzene	ND		1.0	ug/L			09/10/19 08:36	1
o-Xylene	ND		1.0	ug/L			09/10/19 08:36	1
p-Isopropyltoluene	ND		1.0	ug/L			09/10/19 08:36	1
sec-Butylbenzene	ND		1.0	ug/L			09/10/19 08:36	1
Styrene	ND		1.0	ug/L			09/10/19 08:36	1
tert-Butylbenzene	ND		1.0	ug/L			09/10/19 08:36	1
Tetrachloroethene	ND		1.0	ug/L			09/10/19 08:36	1
Toluene	ND		1.0	ug/L			09/10/19 08:36	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			09/10/19 08:36	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			09/10/19 08:36	1
Trichloroethene	ND		1.0	ug/L			09/10/19 08:36	1
Trichlorofluoromethane	ND		1.0	ug/L			09/10/19 08:36	1
Vinyl chloride	ND		0.50	ug/L			09/10/19 08:36	1
<hr/>								
Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac	13	
	%Recovery	Qualifier						
1,2-Dichloroethane-d4 (Surr)	99		70 - 130				09/10/19 08:36	1
4-Bromofluorobenzene (Surr)	98		80 - 120				09/10/19 08:36	1
Dibromofluoromethane (Surr)	99		76 - 132				09/10/19 08:36	1
Toluene-d8 (Surr)	100		80 - 128				09/10/19 08:36	1

Lab Sample ID: LCS 440-567792/4

Matrix: Water

Analysis Batch: 567792

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
	Added	Result	Qualifier					
1,1,1,2-Tetrachloroethane	25.0	22.5		ug/L		90	60 - 141	
1,1,1-Trichloroethane	25.0	25.1		ug/L		100	70 - 130	
1,1,2,2-Tetrachloroethane	25.0	22.1		ug/L		88	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	27.2		ug/L		109	60 - 140	
1,1,2-Trichloroethane	25.0	22.2		ug/L		89	70 - 130	
1,1-Dichloroethane	25.0	22.8		ug/L		91	64 - 130	
1,1-Dichloroethene	25.0	24.7		ug/L		99	70 - 130	
1,1-Dichloropropene	25.0	27.5		ug/L		110	70 - 130	
1,2,3-Trichlorobenzene	25.0	23.5		ug/L		94	60 - 140	
1,2,3-Trichloropropane	25.0	22.2		ug/L		89	63 - 130	
1,2,4-Trichlorobenzene	25.0	23.9		ug/L		95	60 - 140	
1,2,4-Trimethylbenzene	25.0	26.8		ug/L		107	70 - 135	
1,2-Dibromo-3-Chloropropane	25.0	22.8		ug/L		91	52 - 140	
1,2-Dibromoethane (EDB)	25.0	23.1		ug/L		92	70 - 130	
1,2-Dichlorobenzene	25.0	23.5		ug/L		94	70 - 130	
1,2-Dichloroethane	25.0	22.3		ug/L		89	57 - 138	
1,2-Dichloropropane	25.0	23.5		ug/L		94	67 - 130	
1,3,5-Trimethylbenzene	25.0	27.7		ug/L		111	70 - 136	
1,3-Dichlorobenzene	25.0	24.8		ug/L		99	70 - 130	
1,3-Dichloropropane	25.0	22.2		ug/L		89	70 - 130	
1,4-Dichlorobenzene	25.0	23.2		ug/L		93	70 - 130	
2,2-Dichloropropane	25.0	25.4		ug/L		101	68 - 141	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-567792/4

Matrix: Water

Analysis Batch: 567792

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
2-Chlorotoluene	25.0	25.5		ug/L		102	70 - 130
4-Chlorotoluene	25.0	25.7		ug/L		103	70 - 130
Acetone	125	121		ug/L		97	10 - 150
Benzene	25.0	24.7		ug/L		99	68 - 130
Bromobenzene	25.0	24.2		ug/L		97	70 - 130
Bromochloromethane	25.0	22.3		ug/L		89	70 - 130
Bromodichloromethane	25.0	24.0		ug/L		96	70 - 132
Bromoform	25.0	22.6		ug/L		91	60 - 148
Bromomethane	25.0	21.8		ug/L		87	64 - 139
Carbon tetrachloride	25.0	26.2		ug/L		105	60 - 150
Chlorobenzene	25.0	23.1		ug/L		92	70 - 130
Chloroethane	25.0	21.1		ug/L		84	64 - 135
Chloroform	25.0	23.2		ug/L		93	70 - 130
Chloromethane	25.0	20.6		ug/L		83	47 - 140
cis-1,2-Dichloroethene	25.0	24.5		ug/L		98	70 - 133
cis-1,3-Dichloropropene	25.0	23.2		ug/L		93	70 - 133
Dibromochloromethane	25.0	22.4		ug/L		90	69 - 145
Dibromomethane	25.0	22.4		ug/L		89	70 - 130
Dichlorodifluoromethane	25.0	25.9		ug/L		104	29 - 150
Ethylbenzene	25.0	25.0		ug/L		100	70 - 130
Hexachlorobutadiene	25.0	28.6		ug/L		114	10 - 150
Isopropylbenzene	25.0	27.4		ug/L		110	70 - 136
m,p-Xylene	25.0	26.6		ug/L		106	70 - 130
Methylene Chloride	25.0	21.1		ug/L		84	52 - 130
Methyl-t-Butyl Ether (MTBE)	25.0	22.4		ug/L		90	63 - 131
Naphthalene	25.0	24.8		ug/L		99	60 - 140
n-Butylbenzene	25.0	28.1		ug/L		112	65 - 150
N-Propylbenzene	25.0	27.1		ug/L		108	67 - 139
o-Xylene	25.0	25.7		ug/L		103	70 - 130
p-Isopropyltoluene	25.0	28.2		ug/L		113	70 - 132
sec-Butylbenzene	25.0	28.8		ug/L		115	70 - 138
Styrene	25.0	25.6		ug/L		103	70 - 134
tert-Butylbenzene	25.0	28.3		ug/L		113	70 - 130
Tetrachloroethene	25.0	26.0		ug/L		104	70 - 130
Toluene	25.0	24.5		ug/L		98	70 - 130
trans-1,2-Dichloroethene	25.0	24.6		ug/L		98	70 - 130
trans-1,3-Dichloropropene	25.0	24.6		ug/L		98	70 - 132
Trichloroethene	25.0	25.8		ug/L		103	70 - 130
Trichlorofluoromethane	25.0	26.4		ug/L		105	60 - 150
Vinyl chloride	25.0	22.9		ug/L		92	59 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 130
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	96		76 - 132
Toluene-d8 (Surr)	95		80 - 128

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-249277-A-14 MS

Matrix: Water

Analysis Batch: 567792

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		1000	883		ug/L		88	60 - 149
1,1,1-Trichloroethane	130		1000	1120		ug/L		99	70 - 130
1,1,2,2-Tetrachloroethane	ND		1000	860		ug/L		86	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1000	1130		ug/L		113	60 - 140
1,1,2-Trichloroethane	ND		1000	914		ug/L		91	70 - 130
1,1-Dichloroethane	130		1000	1050		ug/L		92	65 - 130
1,1-Dichloroethene	4200		1000	5300	4	ug/L		113	70 - 130
1,1-Dichloropropene	ND		1000	1040		ug/L		104	64 - 130
1,2,3-Trichlorobenzene	ND		1000	846		ug/L		85	60 - 140
1,2,3-Trichloropropane	ND		1000	885		ug/L		89	60 - 130
1,2,4-Trichlorobenzene	ND		1000	908		ug/L		91	60 - 140
1,2,4-Trimethylbenzene	ND		1000	1000		ug/L		100	70 - 130
1,2-Dibromo-3-Chloropropane	ND		1000	873		ug/L		87	48 - 140
1,2-Dibromoethane (EDB)	ND		1000	922		ug/L		92	70 - 131
1,2-Dichlorobenzene	ND		1000	887		ug/L		89	70 - 130
1,2-Dichloroethane	ND		1000	864		ug/L		86	56 - 146
1,2-Dichloropropane	ND		1000	870		ug/L		87	69 - 130
1,3,5-Trimethylbenzene	ND		1000	1030		ug/L		103	70 - 130
1,3-Dichlorobenzene	ND		1000	926		ug/L		93	70 - 130
1,3-Dichloropropane	ND		1000	859		ug/L		86	70 - 130
1,4-Dichlorobenzene	ND		1000	891		ug/L		89	70 - 130
2,2-Dichloropropane	ND		1000	1010		ug/L		101	69 - 138
2-Chlorotoluene	ND		1000	964		ug/L		96	70 - 130
4-Chlorotoluene	ND		1000	956		ug/L		96	70 - 130
Acetone	ND		5000	4220		ug/L		84	10 - 150
Benzene	76		1000	1030		ug/L		96	66 - 130
Bromobenzene	ND		1000	908		ug/L		91	70 - 130
Bromochloromethane	ND		1000	877		ug/L		88	70 - 130
Bromodichloromethane	ND		1000	951		ug/L		95	70 - 138
Bromoform	ND		1000	879		ug/L		88	59 - 150
Bromomethane	ND		1000	850		ug/L		85	62 - 131
Carbon tetrachloride	ND		1000	1060		ug/L		106	60 - 150
Chlorobenzene	ND		1000	924		ug/L		92	70 - 130
Chloroethane	ND		1000	826		ug/L		83	68 - 130
Chloroform	ND		1000	937		ug/L		94	70 - 130
Chloromethane	ND		1000	686		ug/L		69	39 - 144
cis-1,2-Dichloroethene	990		1000	1990		ug/L		101	70 - 130
cis-1,3-Dichloropropene	ND		1000	863		ug/L		86	70 - 133
Dibromochloromethane	ND		1000	888		ug/L		89	70 - 148
Dibromomethane	ND		1000	874		ug/L		87	70 - 130
Dichlorodifluoromethane	ND		1000	731		ug/L		73	25 - 142
Ethylbenzene	ND		1000	971		ug/L		97	70 - 130
Hexachlorobutadiene	ND		1000	1040		ug/L		104	10 - 150
Isopropylbenzene	ND		1000	1050		ug/L		105	70 - 132
m,p-Xylene	ND		1000	1010		ug/L		101	70 - 133
Methylene Chloride	ND		1000	864		ug/L		86	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		1000	854		ug/L		85	70 - 130
Naphthalene	ND		1000	897		ug/L		90	60 - 140

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-249277-A-14 MS

Matrix: Water

Analysis Batch: 567792

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
n-Butylbenzene	ND		1000	1040		ug/L		104	61 - 149	
N-Propylbenzene	ND		1000	1010		ug/L		101	66 - 135	
o-Xylene	ND		1000	997		ug/L		100	70 - 133	
p-Isopropyltoluene	ND		1000	1060		ug/L		106	70 - 130	
sec-Butylbenzene	ND		1000	1100		ug/L		110	67 - 134	
Styrene	ND		1000	893		ug/L		89	29 - 150	
tert-Butylbenzene	ND		1000	1040		ug/L		104	70 - 130	
Tetrachloroethene	ND		1000	1040		ug/L		104	70 - 137	
Toluene	ND		1000	1060		ug/L		100	70 - 130	
trans-1,2-Dichloroethene	150		1000	1130		ug/L		99	70 - 130	
trans-1,3-Dichloropropene	ND		1000	908		ug/L		91	70 - 138	
Trichloroethene	ND		1000	1000		ug/L		97	70 - 130	
Trichlorofluoromethane	ND		1000	1070		ug/L		107	60 - 150	
Vinyl chloride	2500		1000	3430		ug/L		90	50 - 137	
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Surrogate	MS %Recovery	MS Qualifier	MS Limits							
1,2-Dichloroethane-d4 (Surr)	98		70 - 130							
4-Bromofluorobenzene (Surr)	101		80 - 120							
Dibromofluoromethane (Surr)	96		76 - 132							
Toluene-d8 (Surr)	97		80 - 128							

Lab Sample ID: 440-249277-A-14 MSD

Matrix: Water

Analysis Batch: 567792

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,1,1,2-Tetrachloroethane	ND		1000	906		ug/L		91	60 - 149	3	20
1,1,1-Trichloroethane	130		1000	1120		ug/L		99	70 - 130	0	20
1,1,2,2-Tetrachloroethane	ND		1000	848		ug/L		85	63 - 130	1	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		1000	1130		ug/L		113	60 - 140	0	20
1,1,2-Trichloroethane	ND		1000	856		ug/L		86	70 - 130	7	25
1,1-Dichloroethane	130		1000	1090		ug/L		96	65 - 130	3	20
1,1-Dichloroethene	4200		1000	5420	4	ug/L		126	70 - 130	2	20
1,1-Dichloropropene	ND		1000	1030		ug/L		103	64 - 130	1	20
1,2,3-Trichlorobenzene	ND		1000	878		ug/L		88	60 - 140	4	20
1,2,3-Trichloropropane	ND		1000	846		ug/L		85	60 - 130	5	30
1,2,4-Trichlorobenzene	ND		1000	888		ug/L		89	60 - 140	2	20
1,2,4-Trimethylbenzene	ND		1000	962		ug/L		96	70 - 130	4	25
1,2-Dibromo-3-Chloropropane	ND		1000	839		ug/L		84	48 - 140	4	30
1,2-Dibromoethane (EDB)	ND		1000	877		ug/L		88	70 - 131	5	25
1,2-Dichlorobenzene	ND		1000	865		ug/L		87	70 - 130	2	20
1,2-Dichloroethane	ND		1000	852		ug/L		85	56 - 146	1	20
1,2-Dichloropropane	ND		1000	887		ug/L		89	69 - 130	2	20
1,3,5-Trimethylbenzene	ND		1000	997		ug/L		100	70 - 130	3	20
1,3-Dichlorobenzene	ND		1000	904		ug/L		90	70 - 130	2	20
1,3-Dichloropropane	ND		1000	867		ug/L		87	70 - 130	1	25
1,4-Dichlorobenzene	ND		1000	865		ug/L		86	70 - 130	3	20
2,2-Dichloropropane	ND		1000	999		ug/L		100	69 - 138	1	25

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-249277-A-14 MSD

Matrix: Water

Analysis Batch: 567792

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	Limits	RPD	RPD Limit
2-Chlorotoluene	ND		1000	934		ug/L		93	70 - 130	3	20
4-Chlorotoluene	ND		1000	932		ug/L		93	70 - 130	3	20
Acetone	ND		5000	4320		ug/L		86	10 - 150	2	35
Benzene	76		1000	1010		ug/L		93	66 - 130	2	20
Bromobenzene	ND		1000	857		ug/L		86	70 - 130	6	20
Bromochloromethane	ND		1000	863		ug/L		86	70 - 130	2	25
Bromodichloromethane	ND		1000	900		ug/L		90	70 - 138	6	20
Bromoform	ND		1000	858		ug/L		86	59 - 150	2	25
Bromomethane	ND		1000	834		ug/L		83	62 - 131	2	25
Carbon tetrachloride	ND		1000	1060		ug/L		106	60 - 150	0	25
Chlorobenzene	ND		1000	917		ug/L		92	70 - 130	1	20
Chloroethane	ND		1000	843		ug/L		84	68 - 130	2	25
Chloroform	ND		1000	925		ug/L		92	70 - 130	1	20
Chloromethane	ND		1000	678		ug/L		68	39 - 144	1	25
cis-1,2-Dichloroethene	990		1000	1910		ug/L		93	70 - 130	4	20
cis-1,3-Dichloropropene	ND		1000	864		ug/L		86	70 - 133	0	20
Dibromochloromethane	ND		1000	877		ug/L		88	70 - 148	1	25
Dibromomethane	ND		1000	892		ug/L		89	70 - 130	2	25
Dichlorodifluoromethane	ND		1000	694		ug/L		69	25 - 142	5	30
Ethylbenzene	ND		1000	951		ug/L		95	70 - 130	2	20
Hexachlorobutadiene	ND		1000	994		ug/L		99	10 - 150	4	20
Isopropylbenzene	ND		1000	1040		ug/L		104	70 - 132	1	20
m,p-Xylene	ND		1000	980		ug/L		98	70 - 133	3	25
Methylene Chloride	ND		1000	854		ug/L		85	52 - 130	1	20
Methyl-t-Butyl Ether (MTBE)	ND		1000	866		ug/L		87	70 - 130	1	25
Naphthalene	ND		1000	861		ug/L		86	60 - 140	4	30
n-Butylbenzene	ND		1000	1020		ug/L		102	61 - 149	2	20
N-Propylbenzene	ND		1000	965		ug/L		96	66 - 135	5	20
o-Xylene	ND		1000	974		ug/L		97	70 - 133	2	20
p-Isopropyltoluene	ND		1000	1020		ug/L		102	70 - 130	4	20
sec-Butylbenzene	ND		1000	1060		ug/L		106	67 - 134	4	20
Styrene	ND		1000	916		ug/L		92	29 - 150	3	35
tert-Butylbenzene	ND		1000	1010		ug/L		101	70 - 130	3	20
Tetrachloroethene	ND		1000	984		ug/L		98	70 - 137	6	20
Toluene	ND		1000	1010		ug/L		95	70 - 130	5	20
trans-1,2-Dichloroethene	150		1000	1160		ug/L		101	70 - 130	2	20
trans-1,3-Dichloropropene	ND		1000	899		ug/L		90	70 - 138	1	25
Trichloroethene	ND		1000	975		ug/L		95	70 - 130	3	20
Trichlorofluoromethane	ND		1000	1110		ug/L		111	60 - 150	4	25
Vinyl chloride	2500		1000	3510		ug/L		98	50 - 137	2	30
Surrogate		MSD	MSD								
		%Recovery	Qualifier	Limits							
1,2-Dichloroethane-d4 (Surr)		98		70 - 130							
4-Bromofluorobenzene (Surr)		101		80 - 120							
Dibromofluoromethane (Surr)		99		76 - 132							
Toluene-d8 (Surr)		98		80 - 128							

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-568017/4

Matrix: Water

Analysis Batch: 568017

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	ug/L			09/10/19 21:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 130		09/10/19 21:44	1
4-Bromofluorobenzene (Surr)	103		80 - 120		09/10/19 21:44	1
Dibromofluoromethane (Surr)	101		76 - 132		09/10/19 21:44	1
Toluene-d8 (Surr)	98		80 - 128		09/10/19 21:44	1

Lab Sample ID: LCS 440-568017/1003

Matrix: Water

Analysis Batch: 568017

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	
Isopropyl alcohol		250	192	J	ug/L		77	49 - 142
Surrogate	%Recovery							
1,2-Dichloroethane-d4 (Surr)	94		70 - 130					

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 130		09/10/19 21:44	1
4-Bromofluorobenzene (Surr)	103		80 - 120		09/10/19 21:44	1
Dibromofluoromethane (Surr)	101		76 - 132		09/10/19 21:44	1
Toluene-d8 (Surr)	100		80 - 128		09/10/19 21:44	1

Lab Sample ID: 440-249611-1 MS

Matrix: Water

Analysis Batch: 568017

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec.	
Isopropyl alcohol	ND		250	ND		ug/L		86	46 - 142
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			Limits

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 130		09/10/19 21:44	1
4-Bromofluorobenzene (Surr)	103		80 - 120		09/10/19 21:44	1
Dibromofluoromethane (Surr)	99		76 - 132		09/10/19 21:44	1
Toluene-d8 (Surr)	98		80 - 128		09/10/19 21:44	1

Lab Sample ID: 440-249611-1 MSD

Matrix: Water

Analysis Batch: 568017

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.		RPD
Isopropyl alcohol	ND		250	ND		ug/L		85	46 - 142	40
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac				RPD

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 130		09/10/19 21:44	1
4-Bromofluorobenzene (Surr)	108		80 - 120		09/10/19 21:44	1
Dibromofluoromethane (Surr)	99		76 - 132		09/10/19 21:44	1
Toluene-d8 (Surr)	98		80 - 128		09/10/19 21:44	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-568051/4

Matrix: Water

Analysis Batch: 568051

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L		09/11/19 08:10		1
1,1,1-Trichloroethane	ND		1.0	ug/L		09/11/19 08:10		1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L		09/11/19 08:10		1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L		09/11/19 08:10		1
1,1,2-Trichloroethane	ND		1.0	ug/L		09/11/19 08:10		1
1,1-Dichloroethane	ND		1.0	ug/L		09/11/19 08:10		1
1,1-Dichloroethene	ND		1.0	ug/L		09/11/19 08:10		1
1,1-Dichloropropene	ND		1.0	ug/L		09/11/19 08:10		1
1,2,3-Trichlorobenzene	ND		1.0	ug/L		09/11/19 08:10		1
1,2,3-Trichloropropane	ND		1.0	ug/L		09/11/19 08:10		1
1,2,4-Trichlorobenzene	ND		1.0	ug/L		09/11/19 08:10		1
1,2,4-Trimethylbenzene	ND		1.0	ug/L		09/11/19 08:10		1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L		09/11/19 08:10		1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L		09/11/19 08:10		1
1,2-Dichlorobenzene	ND		1.0	ug/L		09/11/19 08:10		1
1,2-Dichloroethane	ND		1.0	ug/L		09/11/19 08:10		1
1,2-Dichloropropane	ND		1.0	ug/L		09/11/19 08:10		1
1,3,5-Trimethylbenzene	ND		1.0	ug/L		09/11/19 08:10		1
1,3-Dichlorobenzene	ND		1.0	ug/L		09/11/19 08:10		1
1,3-Dichloropropane	ND		1.0	ug/L		09/11/19 08:10		1
1,4-Dichlorobenzene	ND		1.0	ug/L		09/11/19 08:10		1
2,2-Dichloropropane	ND		1.0	ug/L		09/11/19 08:10		1
2-Chlorotoluene	ND		1.0	ug/L		09/11/19 08:10		1
4-Chlorotoluene	ND		1.0	ug/L		09/11/19 08:10		1
Acetone	ND		10	ug/L		09/11/19 08:10		1
Benzene	ND		0.50	ug/L		09/11/19 08:10		1
Bromobenzene	ND		1.0	ug/L		09/11/19 08:10		1
Bromochloromethane	ND		1.0	ug/L		09/11/19 08:10		1
Bromodichloromethane	ND		1.0	ug/L		09/11/19 08:10		1
Bromoform	ND		1.0	ug/L		09/11/19 08:10		1
Bromomethane	ND		1.0	ug/L		09/11/19 08:10		1
Carbon tetrachloride	ND		0.50	ug/L		09/11/19 08:10		1
Chlorobenzene	ND		1.0	ug/L		09/11/19 08:10		1
Chloroethane	ND		1.0	ug/L		09/11/19 08:10		1
Chloroform	ND		1.0	ug/L		09/11/19 08:10		1
Chloromethane	ND		1.0	ug/L		09/11/19 08:10		1
cis-1,2-Dichloroethene	ND		1.0	ug/L		09/11/19 08:10		1
cis-1,3-Dichloropropene	ND		0.50	ug/L		09/11/19 08:10		1
Dibromochloromethane	ND		1.0	ug/L		09/11/19 08:10		1
Dibromomethane	ND		1.0	ug/L		09/11/19 08:10		1
Dichlorodifluoromethane	ND		1.0	ug/L		09/11/19 08:10		1
Ethylbenzene	ND		1.0	ug/L		09/11/19 08:10		1
Hexachlorobutadiene	ND		1.0	ug/L		09/11/19 08:10		1
Isopropylbenzene	ND		1.0	ug/L		09/11/19 08:10		1
m,p-Xylene	ND		1.0	ug/L		09/11/19 08:10		1
Methylene Chloride	ND		5.0	ug/L		09/11/19 08:10		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		09/11/19 08:10		1
Naphthalene	ND		1.0	ug/L		09/11/19 08:10		1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-568051/4

Matrix: Water

Analysis Batch: 568051

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier						
n-Butylbenzene	ND		1.0	ug/L			09/11/19 08:10	1
N-Propylbenzene	ND		1.0	ug/L			09/11/19 08:10	1
o-Xylene	ND		1.0	ug/L			09/11/19 08:10	1
p-Isopropyltoluene	ND		1.0	ug/L			09/11/19 08:10	1
sec-Butylbenzene	ND		1.0	ug/L			09/11/19 08:10	1
Styrene	ND		1.0	ug/L			09/11/19 08:10	1
tert-Butylbenzene	ND		1.0	ug/L			09/11/19 08:10	1
Tetrachloroethene	ND		1.0	ug/L			09/11/19 08:10	1
Toluene	ND		1.0	ug/L			09/11/19 08:10	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			09/11/19 08:10	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			09/11/19 08:10	1
Trichloroethene	ND		1.0	ug/L			09/11/19 08:10	1
Trichlorofluoromethane	ND		1.0	ug/L			09/11/19 08:10	1
Vinyl chloride	ND		0.50	ug/L			09/11/19 08:10	1
Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac	13	
	%Recovery	Qualifier						
1,2-Dichloroethane-d4 (Surr)	104		70 - 130				09/11/19 08:10	1
4-Bromofluorobenzene (Surr)	101		80 - 120				09/11/19 08:10	1
Dibromofluoromethane (Surr)	99		76 - 132				09/11/19 08:10	1
Toluene-d8 (Surr)	102		80 - 128				09/11/19 08:10	1

Lab Sample ID: LCS 440-568051/5

Matrix: Water

Analysis Batch: 568051

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
	Added	Result	Qualifier					
1,1,1,2-Tetrachloroethane	25.0	22.5		ug/L		90	60 - 141	
1,1,1-Trichloroethane	25.0	25.5		ug/L		102	70 - 130	
1,1,2,2-Tetrachloroethane	25.0	21.7		ug/L		87	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	27.5		ug/L		110	60 - 140	
1,1,2-Trichloroethane	25.0	21.9		ug/L		87	70 - 130	
1,1-Dichloroethane	25.0	23.1		ug/L		92	64 - 130	
1,1-Dichloroethene	25.0	24.6		ug/L		98	70 - 130	
1,1-Dichloropropene	25.0	26.9		ug/L		108	70 - 130	
1,2,3-Trichlorobenzene	25.0	24.2		ug/L		97	60 - 140	
1,2,3-Trichloropropane	25.0	22.9		ug/L		91	63 - 130	
1,2,4-Trichlorobenzene	25.0	24.2		ug/L		97	60 - 140	
1,2,4-Trimethylbenzene	25.0	26.5		ug/L		106	70 - 135	
1,2-Dibromo-3-Chloropropane	25.0	22.9		ug/L		91	52 - 140	
1,2-Dibromoethane (EDB)	25.0	22.5		ug/L		90	70 - 130	
1,2-Dichlorobenzene	25.0	23.4		ug/L		94	70 - 130	
1,2-Dichloroethane	25.0	22.4		ug/L		89	57 - 138	
1,2-Dichloropropane	25.0	23.4		ug/L		93	67 - 130	
1,3,5-Trimethylbenzene	25.0	27.1		ug/L		108	70 - 136	
1,3-Dichlorobenzene	25.0	23.6		ug/L		94	70 - 130	
1,3-Dichloropropane	25.0	21.5		ug/L		86	70 - 130	
1,4-Dichlorobenzene	25.0	22.9		ug/L		92	70 - 130	
2,2-Dichloropropane	25.0	25.0		ug/L		100	68 - 141	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-568051/5

Matrix: Water

Analysis Batch: 568051

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
2-Chlorotoluene	25.0	24.4		ug/L		98	70 - 130	
4-Chlorotoluene	25.0	24.9		ug/L		100	70 - 130	
Acetone	125	106		ug/L		85	10 - 150	
Benzene	25.0	23.6		ug/L		95	68 - 130	
Bromobenzene	25.0	23.1		ug/L		92	70 - 130	
Bromochloromethane	25.0	22.8		ug/L		91	70 - 130	
Bromodichloromethane	25.0	24.6		ug/L		98	70 - 132	
Bromoform	25.0	21.9		ug/L		88	60 - 148	
Bromomethane	25.0	22.2		ug/L		89	64 - 139	
Carbon tetrachloride	25.0	25.9		ug/L		103	60 - 150	
Chlorobenzene	25.0	22.4		ug/L		90	70 - 130	
Chloroethane	25.0	21.5		ug/L		86	64 - 135	
Chloroform	25.0	23.7		ug/L		95	70 - 130	
Chloromethane	25.0	20.5		ug/L		82	47 - 140	
cis-1,2-Dichloroethene	25.0	24.3		ug/L		97	70 - 133	
cis-1,3-Dichloropropene	25.0	21.7		ug/L		87	70 - 133	
Dibromochloromethane	25.0	22.0		ug/L		88	69 - 145	
Dibromomethane	25.0	23.0		ug/L		92	70 - 130	
Dichlorodifluoromethane	25.0	29.2		ug/L		117	29 - 150	
Ethylbenzene	25.0	24.3		ug/L		97	70 - 130	
Hexachlorobutadiene	25.0	28.1		ug/L		112	10 - 150	
Isopropylbenzene	25.0	26.4		ug/L		106	70 - 136	
m,p-Xylene	25.0	25.2		ug/L		101	70 - 130	
Methylene Chloride	25.0	21.3		ug/L		85	52 - 130	
Methyl-t-Butyl Ether (MTBE)	25.0	22.3		ug/L		89	63 - 131	
Naphthalene	25.0	24.6		ug/L		99	60 - 140	
n-Butylbenzene	25.0	27.4		ug/L		110	65 - 150	
N-Propylbenzene	25.0	25.3		ug/L		101	67 - 139	
o-Xylene	25.0	24.6		ug/L		98	70 - 130	
p-Isopropyltoluene	25.0	27.2		ug/L		109	70 - 132	
sec-Butylbenzene	25.0	28.1		ug/L		113	70 - 138	
Styrene	25.0	24.2		ug/L		97	70 - 134	
tert-Butylbenzene	25.0	27.1		ug/L		108	70 - 130	
Tetrachloroethene	25.0	24.9		ug/L		100	70 - 130	
Toluene	25.0	23.6		ug/L		94	70 - 130	
trans-1,2-Dichloroethene	25.0	24.7		ug/L		99	70 - 130	
trans-1,3-Dichloropropene	25.0	23.0		ug/L		92	70 - 132	
Trichloroethene	25.0	25.8		ug/L		103	70 - 130	
Trichlorofluoromethane	25.0	28.1		ug/L		113	60 - 150	
Vinyl chloride	25.0	23.6		ug/L		94	59 - 133	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		70 - 130
4-Bromofluorobenzene (Surr)	104		80 - 120
Dibromofluoromethane (Surr)	100		76 - 132
Toluene-d8 (Surr)	94		80 - 128

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-249699-B-5 MS

Matrix: Water

Analysis Batch: 568051

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		10.0	9.34		ug/L		93	60 - 149
1,1,1-Trichloroethane	ND		10.0	10.7		ug/L		107	70 - 130
1,1,2,2-Tetrachloroethane	ND		10.0	9.15		ug/L		91	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	13.0		ug/L		130	60 - 140
1,1,2-Trichloroethane	ND		10.0	8.87		ug/L		89	70 - 130
1,1-Dichloroethane	ND		10.0	9.52		ug/L		95	65 - 130
1,1-Dichloroethene	ND		10.0	11.4		ug/L		114	70 - 130
1,1-Dichloropropene	ND		10.0	11.2		ug/L		112	64 - 130
1,2,3-Trichlorobenzene	ND		10.0	9.72		ug/L		97	60 - 140
1,2,3-Trichloropropane	ND		10.0	9.28		ug/L		93	60 - 130
1,2,4-Trichlorobenzene	ND		10.0	10.1		ug/L		101	60 - 140
1,2,4-Trimethylbenzene	ND		10.0	11.1		ug/L		111	70 - 130
1,2-Dibromo-3-Chloropropane	ND		10.0	9.14		ug/L		91	48 - 140
1,2-Dibromoethane (EDB)	ND		10.0	9.38		ug/L		94	70 - 131
1,2-Dichlorobenzene	ND		10.0	9.82		ug/L		98	70 - 130
1,2-Dichloroethane	ND		10.0	9.42		ug/L		94	56 - 146
1,2-Dichloropropane	ND		10.0	9.49		ug/L		95	69 - 130
1,3,5-Trimethylbenzene	ND		10.0	11.2		ug/L		112	70 - 130
1,3-Dichlorobenzene	ND		10.0	9.99		ug/L		100	70 - 130
1,3-Dichloropropane	ND		10.0	8.77		ug/L		88	70 - 130
1,4-Dichlorobenzene	ND		10.0	9.42		ug/L		94	70 - 130
2,2-Dichloropropane	ND		10.0	10.5		ug/L		105	69 - 138
2-Chlorotoluene	ND		10.0	10.1		ug/L		101	70 - 130
4-Chlorotoluene	ND		10.0	10.4		ug/L		104	70 - 130
Acetone	ND		50.0	52.0		ug/L		104	10 - 150
Benzene	ND		10.0	10.2		ug/L		102	66 - 130
Bromobenzene	ND		10.0	10.0		ug/L		100	70 - 130
Bromochloromethane	ND		10.0	9.71		ug/L		97	70 - 130
Bromodichloromethane	ND		10.0	10.2		ug/L		102	70 - 138
Bromoform	ND		10.0	8.91		ug/L		89	59 - 150
Bromomethane	ND		10.0	9.64		ug/L		96	62 - 131
Carbon tetrachloride	ND		10.0	11.1		ug/L		111	60 - 150
Chlorobenzene	ND		10.0	9.71		ug/L		97	70 - 130
Chloroethane	ND		10.0	9.54		ug/L		95	68 - 130
Chloroform	1.1		10.0	11.3		ug/L		101	70 - 130
Chloromethane	ND		10.0	9.12		ug/L		91	39 - 144
cis-1,2-Dichloroethene	ND		10.0	10.2		ug/L		102	70 - 130
cis-1,3-Dichloropropene	ND		10.0	8.93		ug/L		89	70 - 133
Dibromochloromethane	ND		10.0	9.08		ug/L		91	70 - 148
Dibromomethane	ND		10.0	9.14		ug/L		91	70 - 130
Dichlorodifluoromethane	ND		10.0	12.4		ug/L		124	25 - 142
Ethylbenzene	ND		10.0	10.1		ug/L		101	70 - 130
Hexachlorobutadiene	ND		10.0	11.4		ug/L		114	10 - 150
Isopropylbenzene	ND		10.0	10.7		ug/L		107	70 - 132
m,p-Xylene	ND		10.0	10.3		ug/L		103	70 - 133
Methylene Chloride	ND		10.0	9.15		ug/L		91	52 - 130
Methyl-t-Butyl Ether (MTBE)	ND		10.0	9.18		ug/L		92	70 - 130
Naphthalene	ND		10.0	9.89		ug/L		99	60 - 140

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-249699-B-5 MS

Matrix: Water

Analysis Batch: 568051

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	
n-Butylbenzene	ND		10.0	11.5		ug/L		115	61 - 149	
N-Propylbenzene	ND		10.0	10.4		ug/L		104	66 - 135	
o-Xylene	ND		10.0	10.1		ug/L		101	70 - 133	
p-Isopropyltoluene	ND		10.0	11.5		ug/L		115	70 - 130	
sec-Butylbenzene	ND		10.0	11.8		ug/L		118	67 - 134	
Styrene	ND		10.0	9.99		ug/L		100	29 - 150	
tert-Butylbenzene	ND		10.0	11.0		ug/L		110	70 - 130	
Tetrachloroethene	ND		10.0	11.0		ug/L		110	70 - 137	
Toluene	ND		10.0	9.92		ug/L		99	70 - 130	
trans-1,2-Dichloroethene	ND		10.0	10.5		ug/L		105	70 - 130	
trans-1,3-Dichloropropene	ND		10.0	9.78		ug/L		98	70 - 138	
Trichloroethene	ND		10.0	10.8		ug/L		108	70 - 130	
Trichlorofluoromethane	ND		10.0	12.2		ug/L		122	60 - 150	
Vinyl chloride	ND		10.0	10.3		ug/L		103	50 - 137	
<hr/>										
Surrogate	MS %Recovery	MS Qualifier	MS Limits							
1,2-Dichloroethane-d4 (Surr)	100		70 - 130							
4-Bromofluorobenzene (Surr)	99		80 - 120							
Dibromofluoromethane (Surr)	100		76 - 132							
Toluene-d8 (Surr)	96		80 - 128							

Lab Sample ID: 440-249699-B-5 MSD

Matrix: Water

Analysis Batch: 568051

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1,1,2-Tetrachloroethane	ND		10.0	9.23		ug/L		92	60 - 149	1	20
1,1,1-Trichloroethane	ND		10.0	10.9		ug/L		109	70 - 130	2	20
1,1,2,2-Tetrachloroethane	ND		10.0	9.32		ug/L		93	63 - 130	2	30
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	12.5		ug/L		125	60 - 140	4	20
1,1,2-Trichloroethane	ND		10.0	9.16		ug/L		92	70 - 130	3	25
1,1-Dichloroethane	ND		10.0	9.90		ug/L		99	65 - 130	4	20
1,1-Dichloroethene	ND		10.0	10.8		ug/L		108	70 - 130	6	20
1,1-Dichloropropene	ND		10.0	11.6		ug/L		116	64 - 130	4	20
1,2,3-Trichlorobenzene	ND		10.0	9.83		ug/L		98	60 - 140	1	20
1,2,3-Trichloropropane	ND		10.0	9.40		ug/L		94	60 - 130	1	30
1,2,4-Trichlorobenzene	ND		10.0	9.86		ug/L		99	60 - 140	2	20
1,2,4-Trimethylbenzene	ND		10.0	11.1		ug/L		111	70 - 130	0	25
1,2-Dibromo-3-Chloropropane	ND		10.0	8.92		ug/L		89	48 - 140	2	30
1,2-Dibromoethane (EDB)	ND		10.0	9.43		ug/L		94	70 - 131	1	25
1,2-Dichlorobenzene	ND		10.0	9.88		ug/L		99	70 - 130	1	20
1,2-Dichloroethane	ND		10.0	9.39		ug/L		94	56 - 146	0	20
1,2-Dichloropropane	ND		10.0	9.62		ug/L		96	69 - 130	1	20
1,3,5-Trimethylbenzene	ND		10.0	11.4		ug/L		114	70 - 130	2	20
1,3-Dichlorobenzene	ND		10.0	10.1		ug/L		101	70 - 130	1	20
1,3-Dichloropropane	ND		10.0	9.09		ug/L		91	70 - 130	4	25
1,4-Dichlorobenzene	ND		10.0	9.64		ug/L		96	70 - 130	2	20
2,2-Dichloropropane	ND		10.0	10.7		ug/L		107	69 - 138	2	25

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-249699-B-5 MSD

Matrix: Water

Analysis Batch: 568051

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	Limits	RPD	RPD Limit
2-Chlorotoluene	ND		10.0	10.3		ug/L	103	70 - 130		2	20
4-Chlorotoluene	ND		10.0	10.5		ug/L	105	70 - 130		2	20
Acetone	ND		50.0	51.6		ug/L	103	10 - 150		1	35
Benzene	ND		10.0	10.1		ug/L	101	66 - 130		1	20
Bromobenzene	ND		10.0	9.79		ug/L	98	70 - 130		2	20
Bromochloromethane	ND		10.0	9.31		ug/L	93	70 - 130		4	25
Bromodichloromethane	ND		10.0	10.2		ug/L	102	70 - 138		0	20
Bromoform	ND		10.0	9.27		ug/L	93	59 - 150		4	25
Bromomethane	ND		10.0	9.41		ug/L	94	62 - 131		2	25
Carbon tetrachloride	ND		10.0	11.4		ug/L	114	60 - 150		3	25
Chlorobenzene	ND		10.0	9.56		ug/L	96	70 - 130		2	20
Chloroethane	ND		10.0	9.33		ug/L	93	68 - 130		2	25
Chloroform	1.1		10.0	11.0		ug/L	98	70 - 130		3	20
Chloromethane	ND		10.0	9.08		ug/L	91	39 - 144		1	25
cis-1,2-Dichloroethene	ND		10.0	10.5		ug/L	105	70 - 130		3	20
cis-1,3-Dichloropropene	ND		10.0	9.09		ug/L	91	70 - 133		2	20
Dibromochloromethane	ND		10.0	9.41		ug/L	94	70 - 148		4	25
Dibromomethane	ND		10.0	9.40		ug/L	94	70 - 130		3	25
Dichlorodifluoromethane	ND		10.0	12.8		ug/L	128	25 - 142		4	30
Ethylbenzene	ND		10.0	10.2		ug/L	102	70 - 130		1	20
Hexachlorobutadiene	ND		10.0	12.1		ug/L	121	10 - 150		7	20
Isopropylbenzene	ND		10.0	11.2		ug/L	112	70 - 132		5	20
m,p-Xylene	ND		10.0	10.3		ug/L	103	70 - 133		0	25
Methylene Chloride	ND		10.0	9.38		ug/L	94	52 - 130		3	20
Methyl-t-Butyl Ether (MTBE)	ND		10.0	9.24		ug/L	92	70 - 130		1	25
Naphthalene	ND		10.0	9.79		ug/L	98	60 - 140		1	30
n-Butylbenzene	ND		10.0	11.8		ug/L	118	61 - 149		3	20
N-Propylbenzene	ND		10.0	11.0		ug/L	110	66 - 135		5	20
o-Xylene	ND		10.0	10.6		ug/L	106	70 - 133		4	20
p-Isopropyltoluene	ND		10.0	11.6		ug/L	116	70 - 130		1	20
sec-Butylbenzene	ND		10.0	12.1		ug/L	121	67 - 134		2	20
Styrene	ND		10.0	10.3		ug/L	103	29 - 150		3	35
tert-Butylbenzene	ND		10.0	11.3		ug/L	113	70 - 130		3	20
Tetrachloroethene	ND		10.0	11.5		ug/L	115	70 - 137		4	20
Toluene	ND		10.0	10.2		ug/L	102	70 - 130		3	20
trans-1,2-Dichloroethene	ND		10.0	10.2		ug/L	102	70 - 130		3	20
trans-1,3-Dichloropropene	ND		10.0	10.2		ug/L	102	70 - 138		4	25
Trichloroethene	ND		10.0	10.6		ug/L	106	70 - 130		2	20
Trichlorofluoromethane	ND		10.0	11.8		ug/L	118	60 - 150		3	25
Vinyl chloride	ND		10.0	10.2		ug/L	102	50 - 137		1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 130
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	98		76 - 132
Toluene-d8 (Surr)	96		80 - 128

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-568257/4

Matrix: Water

Analysis Batch: 568257

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			09/11/19 20:48	1
Isopropyl alcohol	ND		250	ug/L			09/11/19 20:48	1
Tetrachloroethene	ND		1.0	ug/L			09/11/19 20:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 130		09/11/19 20:48	1
4-Bromofluorobenzene (Surr)	99		80 - 120		09/11/19 20:48	1
Dibromofluoromethane (Surr)	99		76 - 132		09/11/19 20:48	1
Toluene-d8 (Surr)	105		80 - 128		09/11/19 20:48	1

Lab Sample ID: LCS 440-568257/1003

Matrix: Water

Analysis Batch: 568257

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
Isopropyl alcohol	250	207	J	ug/L		83	49 - 142

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		70 - 130
4-Bromofluorobenzene (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	96		76 - 132
Toluene-d8 (Surr)	102		80 - 128

Lab Sample ID: LCS 440-568257/5

Matrix: Water

Analysis Batch: 568257

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	11.2		ug/L		112	60 - 140
Tetrachloroethene	10.0	10.4		ug/L		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	100		76 - 132
Toluene-d8 (Surr)	104		80 - 128

Lab Sample ID: 440-249696-C-1 MS

Matrix: Water

Analysis Batch: 568257

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec.	Limits
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	F2 F1	2000	1150	F1	ug/L		58	60 - 140
Isopropyl alcohol	ND		20000	ND		ug/L		NC	46 - 142
Tetrachloroethene	ND		2000	1810		ug/L		90	70 - 137

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-249696-C-1 MS

Matrix: Water

Analysis Batch: 568257

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	MS	MS	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89				70 - 130
4-Bromofluorobenzene (Surr)	97				80 - 120
Dibromofluoromethane (Surr)	96				76 - 132
Toluene-d8 (Surr)	102				80 - 128

Lab Sample ID: 440-249696-C-1 MSD

Matrix: Water

Analysis Batch: 568257

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD	Limit	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	F2 F1	2000	1780	F2	ug/L		89	60 - 140	43	20
Isopropyl alcohol	ND		20000	ND		ug/L		NC	46 - 142	NC	40
Tetrachloroethylene	ND		2000	1880		ug/L		94	70 - 137	4	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 130
4-Bromofluorobenzene (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	100		76 - 132
Toluene-d8 (Surr)	99		80 - 128

Method: 8270C SIM - 1,4 Dioxane by SIM

Lab Sample ID: MB 440-567555/1-A

Matrix: Water

Analysis Batch: 567607

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 567555

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	ug/L		09/08/19 11:52	09/09/19 13:04	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	29		27 - 120			09/08/19 11:52	09/09/19 13:04	1

Lab Sample ID: LCS 440-567555/3-A

Matrix: Water

Analysis Batch: 567607

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 567555

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limit
1,4-Dioxane	2.00	1.10		ug/L		55	36 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,4-Dioxane-d8 (Surr)	52		27 - 120				

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
SDG: Omega Chemical

Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)

Lab Sample ID: LCSD 440-567555/4-A

Matrix: Water

Analysis Batch: 567607

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 567555

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec.	RPD	Limit
1,4-Dioxane	2.00	1.07		ug/L	53	36 - 120	3	35
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits					
1,4-Dioxane-d8 (Surr)	50		27 - 120					

QC Association Summary

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
 SDG: Omega Chemical

GC/MS VOA

Analysis Batch: 567792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-249611-1	OC_SP220B_EFF_090519	Total/NA	Water	8260B	
440-249611-3	OC_TB_090519	Total/NA	Water	8260B	
MB 440-567792/5	Method Blank	Total/NA	Water	8260B	
LCS 440-567792/4	Lab Control Sample	Total/NA	Water	8260B	
440-249277-A-14 MS	Matrix Spike	Total/NA	Water	8260B	
440-249277-A-14 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 568017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-249611-1 - RA	OC_SP220B_EFF_090519	Total/NA	Water	8260B	
440-249611-3 - RA	OC_TB_090519	Total/NA	Water	8260B	
MB 440-568017/4	Method Blank	Total/NA	Water	8260B	
LCS 440-568017/1003	Lab Control Sample	Total/NA	Water	8260B	
440-249611-1 MS	OC_SP220B_EFF_090519	Total/NA	Water	8260B	
440-249611-1 MSD	OC_SP220B_EFF_090519	Total/NA	Water	8260B	

Analysis Batch: 568051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-249611-2	OC_SP210_INF_090519	Total/NA	Water	8260B	
MB 440-568051/4	Method Blank	Total/NA	Water	8260B	
LCS 440-568051/5	Lab Control Sample	Total/NA	Water	8260B	
440-249699-B-5 MS	Matrix Spike	Total/NA	Water	8260B	
440-249699-B-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 568257

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-249611-2 - RA	OC_SP210_INF_090519	Total/NA	Water	8260B	
440-249611-2 - DL	OC_SP210_INF_090519	Total/NA	Water	8260B	
MB 440-568257/4	Method Blank	Total/NA	Water	8260B	
LCS 440-568257/1003	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-568257/5	Lab Control Sample	Total/NA	Water	8260B	
440-249696-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-249696-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 567555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-249611-1	OC_SP220B_EFF_090519	Total/NA	Water	3520C	
MB 440-567555/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-567555/3-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-567555/4-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 567607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-249611-1	OC_SP220B_EFF_090519	Total/NA	Water	8270C SIM	567555
MB 440-567555/1-A	Method Blank	Total/NA	Water	8270C SIM	567555
LCS 440-567555/3-A	Lab Control Sample	Total/NA	Water	8270C SIM	567555
LCSD 440-567555/4-A	Lab Control Sample Dup	Total/NA	Water	8270C SIM	567555

Definitions/Glossary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
SDG: Omega Chemical

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
%	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - GWCS Monthly

Job ID: 440-249611-1
SDG: Omega Chemical

Laboratory: Eurofins TestAmerica, Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State Program	CA ELAP 2706	06-30-20
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8270C SIM	3520C	Water	1,4-Dioxane



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Chain of Custody Record

TestAmerica

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TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Trent Henderson Tel/Fax: (949) 453-1045 / (949) 453-1047	Site Contact: Khalid Azhar Lab Contact: Danielle Roberts	Date: 9/6/2019	<input checked="" type="checkbox"/> RCRA	<input type="checkbox"/> Other
De Maximis - Jaime Dinello 1322 Scott St., Suite 104 San Diego, CA 92106 (562) 756-8149	Analysis Turnaround Time	<input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS	TAT if different from Below <u>STD</u> _____	<input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day	<input type="checkbox"/> EPA 8270C - 1,4-Dioxane EPA 8260B - VOCs + Fugans Perform MS/MS (Y/N)	<input type="checkbox"/> COCs Sampler: For Lab Use Only: Walk-in Client: Lab Sampling. Job / SDG No :
Project Name: Omega Chemical - GWCS Monthly Site: Omega Chemical	P O #	Sample Identification	Sample Date	Sample Time	Type (c-Comp, g-Grab)	% of Cont.
OC_SP220B_EFF_090519	9/5/2019	1410	Grab	GW	5	<input type="checkbox"/> x <input type="checkbox"/> x
OC_SP210_INF_090519	9/5/2019	1430	Grab	GW	3	<input type="checkbox"/> x <input type="checkbox"/> x
OC_TB_090519	9/5/2019	1400	H2O	H2O	2	<input type="checkbox"/> x <input type="checkbox"/> x

Preservation Used: 1=Ice; 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other _____						
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.						
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown						
Special Instructions/QC Requirements & Comments:						
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.:	Received by:	Cooler Temp. (°C):	Obs'd	Corrd	Term ID No.:
Relinquished by: <i>JH</i>	Company: <i>JH</i>	Date/Time: <i>10/11/19 12:00</i>	Received by: <i>JH</i>	Company: <i>JH</i>	Date/Time: <i>10/11/19 12:00</i>	Date/Time: <i>10/11/19 12:00</i>
Relinquished by: <i>JH</i>	Company: <i>JH</i>	Date/Time: <i>10/11/19</i>	Received by: <i>JH</i>	Company: <i>JH</i>	Date/Time: <i>10/11/19 12:00</i>	Date/Time: <i>10/11/19 12:00</i>
<input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months						

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Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-249611-1
SDG Number: Omega Chemical

Login Number: 249611

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Bonta, Lucia F

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True		6
The cooler's custody seal, if present, is intact.	N/A	Not present	7
Sample custody seals, if present, are intact.	N/A	Not Present	8
The cooler or samples do not appear to have been compromised or tampered with.	True		9
Samples were received on ice.	True		10
Cooler Temperature is acceptable.	True		11
Cooler Temperature is recorded.	True		12
COC is present.	True		13
COC is filled out in ink and legible.	True		14
COC is filled out with all pertinent information.	True		15
Is the Field Sampler's name present on COC?	True		
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		



DATA VALIDATION
FOR
SEMI-ANNUAL GROUND WATER MONITORING
OMEGA CHEMICAL SITE
WHITTIER CALIFORNIA

ORGANIC ANALYSIS DATA
Volatile Organics and 1,4-Dioxane in Water

Laboratory Job Nos.

440-248234-1
440-248385-1

Analyses Performed By:

Test America
Irvine, CA

For:

de maximis, inc.
1322 Scott Street
Suite 104
San Diego, CA 92106

Data Validation By:

ddms, inc.
St. Paul, Minnesota 55108

October 8, 2019

1547-3139C/ekd/das
OmegaGW.docx

EXECUTIVE SUMMARY

Validation of the volatile organic and semi-volatile organic (1,4-dioxane only) analysis data prepared by Test America-Irvine for eight ground water samples, one rinse blank, and two trip blanks (TB) from the Omega Chemical Site has been completed by de maximis Data Management Solutions, Inc. (ddms). Stage 4 validation was performed on one sample (**bolded below**), which represents 10% of the total number of ground water samples received and analyzed by Test America. A Stage 2B review was performed on the remaining samples. The data were reported by the laboratory under Laboratory Job Nos. 440-248234-1 and 440-248385-1. The following samples were reported:

<u>SDG</u>	<u>Sample ID</u>	<u>VOCs</u>	<u>1,4-Dioxane</u>
440-248234-1	OC_GW_OW-1B_20190816	X	X
	OC_GW_OW-3B_20190816	X	X
	OC_GW_OW-12_20190816	X	X
	OC_TB1_20190816	X	
	OC_GW_OW-3B_20190816K	X	X
440-248385-1	OC_GW_OW-8_20190820	X	X
	OC_GW_OW-8B_20190820	X	X
	OC_GW_OW-9_20190820	X	X
	OC_GW_OW-10_20190820	X	X
	OC_GW_OW-8B_20190820N	X	
	OC_TB1_20190820	X	

Based on the validation effort, the following data qualifiers were applied:

- Results for trichlorofluoromethane, 1,1,2-trichloro-1,2,2-trifluoroethane, and 1,2-dichloroethane in OC_GW_OW-9_20190820 were qualified as estimated (J+) due to high responses in the associated continuing calibration (CC) standard.
- The result for 1,1,2-trichloro-1,2,2-trifluoroethane in OC_GW_OW-10_20190820 was qualified as estimated (J+) due to a high response in the associated CC standard.
- Results for 1,1,2,2-tetrachloroethane, naphthalene, hexachlorobutadiene, and 1,2,3-trichlorobenzene in OC_GW_OW-8_20190820, OC_GW_OW-8B_20190820, OC_GW_OW-9_20190820, OC_GW_OW-10_20190820, OC_GW_OW-8B_20190820N, and OC_TB1_20190820 were qualified as estimated (UJ) due to low responses in the associated CC standard.

- Positive results for tetrachloroethene in OC_GW_OW-8_20190820 and OC_GW_OW-8B_20190820 were qualified as estimated (J+) due to high surrogate recoveries.
- Positive results for 1,1,2-trichloro-1,2,2-trifluoroethane, tetrachloroethene, and trichloroethene in OC_GW_OW-10_20190820 were qualified as estimated (J+) due to a high surrogate recovery.
- Positive results for 1,1,2-trichloro-1,2,2-trifluoroethane, 1,1-dichloroethene, 1,2-dichloroethane, cis-1,2-dichloroethene, trans-1,2-dichloroethene, trichloroethene, chloroform, tetrachloroethene, and trichlorofluoromethane in OC_GW_OW-9_20190820 were qualified as estimated (J+) due to a high surrogate recovery.
- Results for 1,2-dichloroethane, chloroform, and trichlorofluoromethane in OC_GW_OW-9_20190820 were qualified as estimated (J+) due to high laboratory control sample/laboratory control sample duplicate (LCS/LCSD) recoveries.
- Results for 1,4-dioxane in all samples except OC_GW_OW-9_20190820 were qualified as estimated (J-, UJ) due to low surrogate recoveries.
- Results for 1,4-dioxane in all samples were qualified as estimated biased low (J-) due to low LCS and LCSD recoveries.
- Results for 1,4-dioxane in OC_GW_OW-8_20190820 and OC_GW_OW-8B_20190820 were qualified as estimated (J) and presumptively present (N) because the ion ratios were outside the laboratory's acceptance limits.
- The volatile organic tentatively identified compound (TIC) at retention times (RTs) of approximately 1.5, 2.3, and 2.4 minutes (carbon dioxide) in OC_GW_OW-12_20190816, OC_GW_OW-8_20190820, OC_GW_OW-8B_20190820, OC_GW_OW-9_20190820, OC_GW_OW-10_20190820, OC_GW_OW-8B_20190820N, and OC_TB1_20190820 was removed by the validator because, based on professional judgment, it is not a true sample component.

All other results were determined to be valid as reported.

Documentation issues are discussed in Section II. This report should be considered part of the data package for all future distributions of the data.

INTRODUCTION

Analyses were performed in accordance with USEPA SW846 Method 8260B and Method 8270C Selected Ion Monitoring (SIM). The laboratory provided a 'Level 4' data package for review.

ddms' validation was performed, to the extent possible, in conformance with the "Omega Chemical Superfund Site Sampling and Analysis Plan for Remedial Action/Remedial Design October 4, 2010", ddms SOPs ECS-002 and ECS-003, and the analytical methods. Professional judgment was applied as necessary and appropriate.

The data validation process is intended to evaluate data on a technical basis rather than a contract compliance basis for chemical analyses conducted under the referenced methods. It is assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate and sufficient quality review prior to submission for validation.

During the validation process, laboratory data are verified against all available supporting documentation. Based on the findings of the evaluation, qualifier codes may be added by the data validator. Validated results are, therefore, either qualified or unqualified. Unqualified results mean that the reported values may be used without reservation. Final validated results are annotated with the following codes as defined by the USEPA National Functional Guidelines:

U The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ The result is an estimated quantity, but the result may be biased high.

J- The result is an estimated quantity, but the result may be biased low.

NJ The analyte has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the sample.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.



All data users should note two facts. First, the "R" qualifier means that the laboratory-reported value is unusable. In other words, due to significant quality control problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Rejected values should not appear on data tables because they cannot be relied upon, even as a last resort. Second, no concentration is guaranteed to be accurate even if all associated quality control is acceptable. Strict quality control conformance serves only to increase confidence in reported results; any analytical result will always contain some error.

The data user is also cautioned that the validation effort is based on the raw data printouts as provided by the laboratory. Software manipulation cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.



I. Holding Times, Preservation and Sample Integrity

Copies of the applicable chain of custody (COC) records were included in the data packages documenting sample collection dates of August 16 and 20, 2019. The samples were received at the laboratory on August 16 and 20, 2019.

The temperatures of the coolers upon receipt at the laboratory (1.1°C and 1.9°C) were below the lower acceptance limit (acceptable range is 4°C ±2°C). No action was necessary due to the slightly low cooler temperatures. Documentation of proper pH was included in the data packages. All samples were prepared and analyzed within method holding times.

II. Documentation

The following documentation issue was observed during the validation effort:

- The volatile organic TIC at RTs of approximately 1.5, 2.3, and 2.4 minutes (carbon dioxide) in OC_GW_OW-12_20190816, OC_GW_OW-8_20190820, OC_GW_OW-8B_20190820, OC_GW_OW-9_20190820, OC_GW_OW-10_20190820, OC_GW_OW-8B_20190820N, and OC_TB1_20190820 was removed by the validator because it is not true a sample component.

At the discretion of the data user, the laboratory may be contacted and requested to revise the laboratory data packages.

The remainder of this report discusses the review effort for each of the parameters. The table below documents the Quality Control (QC) parameters reviewed. Only those quality excursions resulting in qualified data are discussed below. Quality control excursions having no impact to sample results are not discussed. Where a result was qualified J+ or J- and J, the J qualifier takes precedence. Where a result was qualified biased high and low for differing data quality excursions, the final qualifier is J with an indeterminate bias.

III. VOCs

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration (Initial Calibration [IC], IC Verification [ICV], Continuing Calibration [CC])	N
Laboratory and Field Blanks	Y
Surrogates	N
Laboratory Control Samples (LCS)/ LCS Duplicates (LCSD)	N
Field Duplicates	Y

Review Element	Acceptable?
Matrix Spike (MS)/Matrix Spike Duplicate (MSD)	Y
Internal Standard Responses	Y
Compound Identification	N

Surrogates

Surrogate recoveries were within the acceptance limits of 70-130%, with the exceptions noted below:

Sample	Surrogate Compound	Recovery
OC_GW_OW-8_20190820	1,2-dichloroethane-d ₄	133
OC_GW_OW-8B_20190820	1,2-dichloroethane-d ₄	136
OC_GW_OW-9_20190820	1,2-dichloroethane-d ₄	137
OC_GW_OW-9_0190820DL	1,2-dichloroethane-d ₄	137
OC_GW_OW-10_20190820	1,2-dichloroethane-d ₄	132

Positive results for tetrachloroethene in OC_GW_OW-8_20190820 and OC_GW_OW-8B_20190820, for 1,1,2-trichloro-1,2,2-trifluoroethane, tetrachloroethene, and trichloroethene in OC_GW_OW-10_20190820, and for 1,1,2-trichloro-1,2,2-trifluoroethane, 1,1-dichloroethene, 1,2-dichloroethane, cis-1,2-dichloroethene, trans-1,2-dichloroethene, trichloroethene, chloroform, tetrachloroethene, and trichlorofluoromethane in OC_GW_OW-9_20190820 were qualified as estimated (J+) due to the high surrogate recoveries.

Calibration

Summary results for all associated initial calibrations (IC) were reported in support of sample analyses. Although the standards and IC summary forms included more compounds than were specifically applicable to these analyses, all project-specified target analytes were included. For the relevant target analytes, the reported average relative response factors (RRFs) were greater than the evaluation criterion (QC >0.05) and the relative standard deviations (RSDs) were acceptable (QC <20% RSD). An initial calibration verification (ICV) standard was analyzed immediately following each IC, and all ICV standard results were acceptable (QC <30%D).

Summary forms were provided for all applicable CC standards. Reported RRFs and percent difference (%D) values were acceptable (QC <20%), except as summarized below. Where excursions represented an increase in instrument sensitivity and the compound was not detected, no data required qualification and these instances are not detailed below.

Instrument	CC Date	Compound	%D	Affected Samples
GCMS45	8/22/19	Trichlorofluoromethane (Freon 11)	67	OC_GW_OW-9_20190820
		1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	22	OC_GW_OW-9_20190820 OC_GW_OW-10_20190820
		1,2-Dichloroethane	28	OC_GW_OW-9_20190820
		1,1,2,2-Tetrachloroethane	25	OC_GW_OW-8_20190820
		Naphthalene	24	OC_GW_OW-8B_20190820
		Hexachlorobutadiene	25	OC_GW_OW-9_20190820
		1,2,3-Trichlorobenzene	21	OC_GW_OW-10_20190820 OC_GW_OW-8B_20190820N OC_TB1_20190820

For trichlorofluoromethane, 1,1,2-trichloro-1,2,2-trifluoroethane, and 1,2-dichloroethane, the high %Ds represent an increase in instrument response, and results for these compounds in the affected samples were qualified as estimated (J+) due to the high responses. For 1,1,2,2-tetrachloroethane, naphthalene, hexachlorobutadiene, and 1,2,3-trichlorobenzene, the high %Ds represent a decrease in instrument response, and results for these compounds in the affected were qualified as estimated (UJ) due to the low responses.

Laboratory Control Sample (LCS/LCS Duplicate)

All percent recoveries were acceptable (70-130%R), with the following exceptions:

LCS/LCSD	Compound	LCS %R	LCSD %R	Affected Sample
440-564781	1,2-Dichloroethane	134	131	OC_GW_OW-9_20190820
	Chloroform	131	a	
	Trichlorofluoromethane	169	170	

a = acceptable

Sample results were qualified as estimated (J+) due to high LCS/LCSD recoveries.

Compound Identification

The TIC at RTs of approximately 1.5, 2.3, and 2.4 minutes (carbon dioxide) OC_GW_OW-12_20190816, OC_GW_OW-8_20190820, OC_GW_OW-8B_20190820, OC_GW_OW-9_20190820, OC_GW_OW-10_20190820, OC_GW_OW-8B_20190820N, and OC_TB1_20190820 was removed by the validator because, based on professional judgment, it is not a true sample component.

IV. SVOCs – 1,4-Dioxane only

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	Y
Laboratory and Field Blanks	Y

Review Element	Acceptable?
Surrogates	N
LCS/LCSD	N
Field Duplicates	Y
MS/MSD	NA
Internal Standard Responses	Y
Compound Identification	N

Surrogates

The results for 1,4-dioxane in all samples except OC_GW_OW-9_20190820 were qualified as estimated (J-, UJ) due to low surrogate recoveries (acceptance limits 70-130%R).

The 1,4-dioxane-d₈ surrogate in OC_GW_OW-9_20190820 was diluted out and no qualification of sample results was made.

Laboratory Control Sample

Results for 1,4-dioxane in all samples were qualified as estimated biased low (J-, UJ) due to low LCS and LCSD recoveries (37-59%R; acceptance limits 70-130%R).

Compound Identification

For SIM analysis, ratios must be determined during initial calibration, using the integrated areas for the primary and secondary ions from their reference standard mass chromatograms. Confirmation in samples is made by verifying the ratio against the acceptance limits established by the laboratory. Results for 1,4-dioxane in OC_GW_OW-8_20190820 and OC_GW_OW-8B_20190820 were qualified as estimated (J) and presumptively present (N) because the ion ratios were outside the laboratory's acceptance limits.



ATTACHMENT A

DATA SUMMARY FORMS

440-248234-1

440-248385-1

Data Summary Form
 Omega Chemical
 Groundwaters
 (ug/L)

Field Sample ID		OC_GW_OW-12_20190816		OC_GW_OW-1B_20190816	
Sample Type		N		N	
Lab Sample ID		440-248234-3		440-248234-1	
RL	Dilution Factor	1, 10, 100		1	
1	1,1,1,2-Tetrachloroethane	10	U	1	U
1	1,1,1-Trichloroethane (TCA)	74		1	U
1	1,1,2,2-Tetrachloroethane	10	U	1	U
1	1,1,2-Trichloroethane	10	U	1	U
1	1,1-Dichloroethane	10	U	1	U
1	1,1-Dichloroethene	85		1	U
1	1,1-Dichloropropene	10	U	1	U
1	1,2,3-Trichlorobenzene	10	U	1	U
1	1,2,3-Trichloropropane	10	U	1	U
1	1,2,4-Trichlorobenzene	10	U	1	U
1	1,2,4-Trimethylbenzene	10	U	1	U
5	1,2-Dibromo-3-chloropropane	50	U	5	U
1	1,2-Dibromoethane (EDB)	10	U	1	U
1	1,2-Dichlorobenzene	3.2	J	1	U
1	1,2-Dichloroethane	10	U	1	U
1	1,2-Dichloropropene	10	U	1	U
1	1,3,5-Trimethylbenzene	10	U	1	U
1	1,3-Dichlorobenzene	10	U	1	U
1	1,3-Dichloropropene	10	U	1	U
1	1,4-Dichlorobenzene	10	U	1	U
1	2,2-Dichloropropene	10	U	1	U
1	2-Chlorotoluene	10	U	1	U
1	4-Chlorotoluene	10	U	1	U
10	Acetone	100	U	10	U
0.5	Benzene	5	U	0.5	U
1	Bromobenzene	10	U	1	U
1	Bromochloromethane	10	U	1	U
1	Bromodichloromethane	10	U	1	U
1	Bromoform	10	U	1	U
1	Bromomethane	10	U	1	U
0.5	Carbon tetrachloride	5	U	0.5	U
1	Chlorobenzene	10	U	1	U
1	Chloroethane	10	U	1	U
1	Chloroform	60		1	U
1	Chloromethane	10	U	1	U
1	cis-1,2-Dichloroethene	10	U	1	U
0.5	cis-1,3-Dichloropropene	5	U	0.5	U
1	Dibromochloromethane	10	U	1	U
1	Dibromomethane	10	U	1	U
1	Ethylbenzene	10	U	1	U
1	Freon 11	48		3	
5	Freon 113	1600		7.2	
1	Freon 12	10	U	1	U
1	Hexachlorobutadiene	10	U	1	U
250	Isopropyl Alcohol (Isopropanol)	2500	U	250	U
1	Isopropylbenzene	10	U	1	U
1	m,p-Xylene	10	U	1	U
1	Methyl Tert-Butyl Ether	10	U	1	U
5	Methylene chloride	50	U	5	U
1	Naphthalene	10	U	1	U
1	N-butylbenzene	10	U	1	U
1	o-Xylene	10	U	1	U
1	p-Isopropyltoluene	10	U	1	U
1	Propylbenzene	10	U	1	U
1	sec-Butylbenzene	10	U	1	U
1	Styrene	10	U	1	U
1	tert-Butylbenzene	10	U	1	U
1	Tetrachloroethene (PCE)	2500		4.5	
1	Toluene	10	U	1	U
1	trans-1,2-Dichloroethene	10	U	1	U
0.5	trans-1,3-Dichloropropene	5	U	0.5	U
1	Trichloroethene (TCE)	260		1	U
0.5	Vinyl chloride	5	U	0.5	U
0.5	1,4-Dioxane	5	J-	0.82	J-

Data Summary Form
Omega Chemical
Groundwaters
(ug/L)

Field Sample ID		OC_GW_OW-3B_20190816		OC_GW_OW-3B_20190816K		OC_TB1_20190816	
Sample Type		N		FD		TB	
Lab Sample ID		440-248234-2		440-248234-5		440-248234-4	
RL	Dilution Factor	1		1		1	
1	1,1,1,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	1	U	1	U
1	1,1,2,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,2-Trichloroethane	1	U	1	U	1	U
1	1,1-Dichloroethane	1	U	1	U	1	U
1	1,1-Dichloroethene	1	U	1	U	1	U
1	1,1-Dichloropropene	1	U	1	U	1	U
1	1,2,3-Trichlorobenzene	1	U	1	U	1	U
1	1,2,3-Trichloropropane	1	U	1	U	1	U
1	1,2,4-Trichlorobenzene	1	U	1	U	1	U
1	1,2,4-Trimethylbenzene	1	U	1	U	1	U
5	1,2-Dibromo-3-chloropropane	5	U	5	U	5	U
1	1,2-Dibromoethane (EDB)	1	U	1	U	1	U
1	1,2-Dichlorobenzene	1	U	1	U	1	U
1	1,2-Dichloroethane	1	U	1	U	1	U
1	1,2-Dichloropropene	1	U	1	U	1	U
1	1,3,5-Trimethylbenzene	1	U	1	U	1	U
1	1,3-Dichlorobenzene	1	U	1	U	1	U
1	1,3-Dichloropropene	1	U	1	U	1	U
1	1,4-Dichlorobenzene	1	U	1	U	1	U
1	2,2-Dichloropropene	1	U	1	U	1	U
1	2-Chlorotoluene	1	U	1	U	1	U
1	4-Chlorotoluene	1	U	1	U	1	U
10	Acetone	10	U	10	U	10	U
0.5	Benzene	0.5	U	0.5	U	0.5	U
1	Bromobenzene	1	U	1	U	1	U
1	Bromochloromethane	1	U	1	U	1	U
1	Bromodichloromethane	1	U	1	U	1	U
1	Bromoform	1	U	1	U	1	U
1	Bromomethane	1	U	1	U	1	U
0.5	Carbon tetrachloride	0.5	U	0.5	U	0.5	U
1	Chlorobenzene	1	U	1	U	1	U
1	Chloroethane	1	U	1	U	1	U
1	Chloroform	1	U	1	U	1	U
1	Chloromethane	1	U	1	U	1	U
1	cis-1,2-Dichloroethene	1	U	1	U	1	U
0.5	cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
1	Dibromochloromethane	1	U	1	U	1	U
1	Dibromomethane	1	U	1	U	1	U
1	Ethylbenzene	1	U	1	U	1	U
1	Freon 11	1	U	1	U	1	U
5	Freon 113	5	U	5	U	5	U
1	Freon 12	1	U	1	U	1	U
1	Hexachlorobutadiene	1	U	1	U	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U	250	U	250	U
1	Isopropylbenzene	1	U	1	U	1	U
1	m,p-Xylene	1	U	1	U	1	U
1	Methyl Tert-Butyl Ether	1	U	1	U	1	U
5	Methylene chloride	5	U	5	U	5	U
1	Naphthalene	1	U	1	U	1	U
1	N-butylbenzene	1	U	1	U	1	U
1	o-Xylene	1	U	1	U	1	U
1	p-Isopropyltoluene	1	U	1	U	1	U
1	Propylbenzene	1	U	1	U	1	U
1	sec-Butylbenzene	1	U	1	U	1	U
1	Styrene	1	U	1	U	1	U
1	tert-Butylbenzene	1	U	1	U	1	U
1	Tetrachloroethene (PCE)	8.9		10		1	U
1	Toluene	1	U	1	U	1	U
1	trans-1,2-Dichloroethene	1	U	1	U	1	U
0.5	trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
1	Trichloroethene (TCE)	1	U	1	U	1	U
0.5	Vinyl chloride	0.5	U	0.5	U	0.5	U
0.5	1,4-Dioxane	0.5	UJ	0.49	UJ		

Data Summary Form
Omega Chemical
Groundwaters
(ug/L)

Field Sample ID		OC_GW_OW-10_20190820		OC_GW_OW-8_20190820	
Sample Type		N		N	
Lab Sample ID		440-248385-4		440-248385-1	
RL	Dilution Factor	1		1	
1	1,1,1,2-Tetrachloroethane	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	1	U
1	1,1,2,2-Tetrachloroethane	1	UJ	1	UJ
1	1,1,2-Trichloroethane	1	U	1	U
1	1,1-Dichloroethane	1	U	1	U
1	1,1-Dichloroethene	16		1	U
1	1,1-Dichloropropene	1	U	1	U
1	1,2,3-Trichlorobenzene	1	UJ	1	UJ
1	1,2,3-Trichloropropane	1	U	1	U
1	1,2,4-Trichlorobenzene	1	U	1	U
1	1,2,4-Trimethylbenzene	1	U	1	U
5	1,2-Dibromo-3-chloropropane	5	U	5	U
1	1,2-Dibromoethane (EDB)	1	U	1	U
1	1,2-Dichlorobenzene	1	U	1	U
1	1,2-Dichloroethane	1	U	1	U
1	1,2-Dichloropropane	1	U	1	U
1	1,3,5-Trimethylbenzene	1	U	1	U
1	1,3-Dichlorobenzene	1	U	1	U
1	1,3-Dichloropropane	1	U	1	U
1	1,4-Dichlorobenzene	1	U	1	U
1	2,2-Dichloropropane	1	U	1	U
1	2-Chlorotoluene	1	U	1	U
1	4-Chlorotoluene	1	U	1	U
10	Acetone	10	U	10	U
0.5	Benzene	0.5	U	0.5	U
1	Bromobenzene	1	U	1	U
1	Bromochloromethane	1	U	1	U
1	Bromodichloromethane	1	U	1	U
1	Bromoform	1	U	1	U
1	Bromomethane	1	U	1	U
0.5	Carbon tetrachloride	0.5	U	0.5	U
1	Chlorobenzene	1	U	1	U
1	Chloroethane	1	U	1	U
1	Chloroform	1	U	1	U
1	Chloromethane	1	U	1	U
1	cis-1,2-Dichloroethene	1	U	1	U
0.5	cis-1,3-Dichloropropene	0.5	U	0.5	U
1	Dibromochloromethane	1	U	1	U
1	Dibromomethane	1	U	1	U
1	Ethylbenzene	1	U	1	U
1	Freon 11	3.3		1	U
5	Freon 113	7.1	J+	5	U
1	Freon 12	1	U	1	U
1	Hexachlorobutadiene	1	UJ	1	UJ
250	Isopropyl Alcohol (Isopropanol)	250	U	250	U
1	Isopropylbenzene	1	U	1	U
1	m,p-Xylene	1	U	1	U
1	Methyl Tert-Butyl Ether	1	U	1	U
5	Methylene chloride	5	U	5	U
1	Naphthalene	1	UJ	1	UJ
1	N-butylbenzene	1	U	1	U
1	o-Xylene	1	U	1	U
1	p-Isopropyltoluene	1	U	1	U
1	Propylbenzene	1	U	1	U
1	sec-Butylbenzene	1	U	1	U
1	Styrene	1	U	1	U
1	tert-Butylbenzene	1	U	1	U
1	Tetrachloroethene (PCE)	22	J+	0.7	J+
1	Toluene	1	U	1	U
1	trans-1,2-Dichloroethene	1	U	1	U
0.5	trans-1,3-Dichloropropene	0.5	U	0.5	U
1	Trichloroethene (TCE)	1.6	J+	1	U
0.5	Vinyl chloride	0.5	U	0.5	U
0.5	1,4-Dioxane	0.16	J-	0.11	J,N

Data Summary Form
Omega Chemical
Groundwaters
(ug/L)

Field Sample ID		OC_GW_OW-8B_20190820	OC_GW_OW-8B_20190820N	OC_GW_OW-9_20190820	
Sample Type		N	RB	N	
Lab Sample ID		440-248385-2	440-248385-5	440-248385-3	
RL	Dilution Factor	1	1	2, 10, 100	
1	1,1,1,2-Tetrachloroethane	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	1	10
1	1,1,2,2-Tetrachloroethane	1	UJ	1	10
1	1,1,2-Trichloroethane	1	U	1	10
1	1,1-Dichloroethane	1	U	1	10
1	1,1-Dichloroethene	1	U	1	280
1	1,1-Dichloropropene	1	U	1	10
1	1,2,3-Trichlorobenzene	1	UJ	1	10
1	1,2,3-Trichloropropane	1	U	1	10
1	1,2,4-Trichlorobenzene	1	U	1	10
1	1,2,4-Trimethylbenzene	1	U	1	10
5	1,2-Dibromo-3-chloropropane	5	U	5	50
1	1,2-Dibromoethane (EDB)	1	U	1	10
1	1,2-Dichlorobenzene	1	U	1	10
1	1,2-Dichloroethane	1	U	1	94
1	1,2-Dichloropropane	1	U	1	10
1	1,3,5-Trimethylbenzene	1	U	1	10
1	1,3-Dichlorobenzene	1	U	1	10
1	1,3-Dichloropropane	1	U	1	10
1	1,4-Dichlorobenzene	1	U	1	10
1	2,2-Dichloropropane	1	U	1	10
1	2-Chlorotoluene	1	U	1	10
1	4-Chlorotoluene	1	U	1	10
10	Acetone	10	U	24	100
0.5	Benzene	0.5	U	0.5	5
1	Bromobenzene	1	U	1	10
1	Bromochloromethane	1	U	1	10
1	Bromodichloromethane	1	U	1	10
1	Bromoform	1	U	1	10
1	Bromomethane	1	U	1	10
0.5	Carbon tetrachloride	0.5	U	0.5	5
1	Chlorobenzene	1	U	1	10
1	Chloroethane	1	U	1	10
1	Chloroform	1	U	1	350
1	Chloromethane	1	U	1	10
1	cis-1,2-Dichloroethene	1	U	1	4.7
0.5	cis-1,3-Dichloropropene	0.5	U	0.5	5
1	Dibromochloromethane	1	U	1	10
1	Dibromomethane	1	U	1	10
1	Ethylbenzene	1	U	1	10
1	Freon 11	1	U	1	100
5	Freon 113	5	U	5	230
1	Freon 12	1	U	1	10
1	Hexachlorobutadiene	1	UJ	1	UJ
250	Isopropyl Alcohol (Isopropanol)	250	U	250	2500
1	Isopropylbenzene	1	U	1	10
1	m,p-Xylene	1	U	1	10
1	Methyl Tert-Butyl Ether	1	U	1	10
5	Methylene chloride	5	U	5	50
1	Naphthalene	1	UJ	1	UJ
1	N-butylbenzene	1	U	1	10
1	o-Xylene	1	U	1	10
1	p-Isopropyltoluene	1	U	1	10
1	Propylbenzene	1	U	1	10
1	sec-Butylbenzene	1	U	1	10
1	Styrene	1	U	1	10
1	tert-Butylbenzene	1	U	1	10
1	Tetrachloroethene (PCE)	25	J+	1	4200
1	Toluene	1	U	1	10
1	trans-1,2-Dichloroethene	1	U	1	3.7
0.5	trans-1,3-Dichloropropene	0.5	U	0.5	5
1	Trichloroethene (TCE)	1	U	1	220
0.5	Vinyl chloride	0.5	U	0.5	5
0.5	1,4-Dioxane	0.11	J,N		480

Data Summary Form
 Omega Chemical
 Groundwaters
 (ug/L)

Field Sample ID		OC_TB1_20190820	
Sample Type		TB	
Lab Sample ID		440-248385-6	
RL	Dilution Factor		1
1	1,1,1,2-Tetrachloroethane	1	U
1	1,1,1-Trichloroethane (TCA)	1	U
1	1,1,2,2-Tetrachloroethane	1	UJ
1	1,1,2-Trichloroethane	1	U
1	1,1-Dichloroethane	1	U
1	1,1-Dichloroethene	1	U
1	1,1-Dichloropropene	1	U
1	1,2,3-Trichlorobenzene	1	UJ
1	1,2,3-Trichloropropane	1	U
1	1,2,4-Trichlorobenzene	1	U
1	1,2,4-Trimethylbenzene	1	U
5	1,2-Dibromo-3-chloropropane	5	U
1	1,2-Dibromoethane (EDB)	1	U
1	1,2-Dichlorobenzene	1	U
1	1,2-Dichloroethane	1	U
1	1,2-Dichloropropane	1	U
1	1,3,5-Trimethylbenzene	1	U
1	1,3-Dichlorobenzene	1	U
1	1,3-Dichloropropane	1	U
1	1,4-Dichlorobenzene	1	U
1	2,2-Dichloropropane	1	U
1	2-Chlorotoluene	1	U
1	4-Chlorotoluene	1	U
10	Acetone	10	U
0.5	Benzene	0.5	U
1	Bromobenzene	1	U
1	Bromochloromethane	1	U
1	Bromodichloromethane	1	U
1	Bromoform	1	U
1	Bromomethane	1	U
0.5	Carbon tetrachloride	0.5	U
1	Chlorobenzene	1	U
1	Chloroethane	1	U
1	Chloroform	1	U
1	Chloromethane	1	U
1	cis-1,2-Dichloroethene	1	U
0.5	cis-1,3-Dichloropropene	0.5	U
1	Dibromochloromethane	1	U
1	Dibromomethane	1	U
1	Ethylbenzene	1	U
1	Freon 11	1	U
5	Freon 113	5	U
1	Freon 12	1	U
1	Hexachlorobutadiene	1	UJ
250	Isopropyl Alcohol (Isopropanol)	250	U
1	Isopropylbenzene	1	U
1	m,p-Xylene	1	U
1	Methyl Tert-Butyl Ether	1	U
5	Methylene chloride	5	U
1	Naphthalene	1	UJ
1	N-butylbenzene	1	U
1	o-Xylene	1	U
1	p-Isopropyltoluene	1	U
1	Propylbenzene	1	U
1	sec-Butylbenzene	1	U
1	Styrene	1	U
1	tert-Butylbenzene	1	U
1	Tetrachloroethene (PCE)	1	U
1	Toluene	1	U
1	trans-1,2-Dichloroethene	1	U
0.5	trans-1,3-Dichloropropene	0.5	U
1	Trichloroethene (TCE)	1	U
0.5	Vinyl chloride	0.5	U
0.5	1,4-Dioxane		



**DATA VALIDATION
FOR
SEMI-ANNUAL GROUND WATER MONITORING
OMEGA CHEMICAL SITE
WHITTIER CALIFORNIA**

**ORGANIC ANALYSIS DATA
Volatile Organics and 1,4-Dioxane in Water**

Laboratory Job Nos.

440-248097-1
440-248098-1
440-248100-1
440-248231-1
440-248383-1

Analyses Performed By:

**Test America
Irvine, CA**

For:

**de maximis, inc.
1322 Scott Street
Suite 104
San Diego, CA 92106**

Data Validation By:

**ddms, inc.
St. Paul, Minnesota 55108**

October 8, 2019

EXECUTIVE SUMMARY

The Stage 2B validation of the volatile organic and semi-volatile organic (1,4-dioxane only) analysis data prepared by Test America-Irvine for 15 ground water samples, three rinse blanks (RBs) and two trip blanks (TBs) from the Omega Chemical Site has been completed by de maximis Data Management Solutions, Inc. (ddms). The data were reported by the laboratory under Laboratory Job Nos. 440-248097-1, 440-248098-1, 440-248100-1, 440-248231-1, and 440-248383-1. The following samples were reported:

<u>SDG</u>	<u>Sample ID</u>	<u>VOCs</u>	<u>1,4-Dioxane</u>
440-248097-1	OC_GW_OW-12_20190815N	X	
	OC_TB1_20190815	X	
440-248098-1	OC_GW_EW-1_20190815	X	X
	OC_GW_EW-3_20190815	X	X
	OC_GW_EW-4_20190815	X	X
	OC_GW_EW-5_20190815	X	X
	OC_GW_DPE-3_20190815	X	X
440-248100-1	OC_GW_DPE-4_20190815	X	X
	OC_GW_DPE-5_20190815	X	X
	OC_GW_DPE-8_20190815	X	X
	OC_GW_DPE-9_20190815	X	X
	OC_GW_DPE-7D_20190815	X	X
	OC_GW_DPE-10D_20190815	X	X
	OC_TB2_20190815	X	
	OC_GW_PZ-9_20190816N	X	X
440-248231-1	OC_GW_OW-11_20190816	X	
	OC_GW_PZ-9_20190820	X	X
440-248383-1	OC_GW_OW-13B_20190819	X	X
	OC_GW_OW-13B_20190819K	X	X
	OC_GW_OW-13B_20190819N	X	

Based on the validation effort, the following data qualifiers were applied:

- Results for dichlorodifluoromethane, 2,2-dichloropropane, and 1,2-dichloroethane in OC_GW_EW-1_20190815, OC_GW_DPE-7D_20190815, OC_GW_DPE-4_20190815, OC_GW_PZ-9_20190816N, and OC_GW_OW-11_20190816 were qualified as estimated (J-, UJ) due to low responses in the associated continuing calibration (CC) standard.

- Results for trichloroethene in OC_GW_EW-1_20190815, OC_GW_EW-3_20190815, OC_GW_EW-4_20190815, OC_GW_EW-5_20190815, OC_GW_DPE-7D_20190815, OC_GW_DPE-4_20190815, and OC_GW_OW-11_20190816 were qualified as estimated (J-) due to low matrix spike/matrix spike duplicate (MS/MSD) recoveries.
- Results for 1,1,2-trichloro-1,2,2-trifluoroethane, 1,1-dichloroethene, and n-butylbenzene in OC_GW_DPE-3_20190815, OC_GW_DPE-4_20190815, OC_GW_DPE-5_20190815, OC_GW_DPE-8_20190815, OC_GW_DPE-9_20190815, OC_GW_DPE-7D_20190815, OC_GW_DPE-10D_20190815, and OC_GW_OW-11_20190816 were qualified as estimated (J, UJ) due to a high MS %R and high relative percent difference (RPD).
- Results for trichlorofluoromethane in OC_GW_DPE-3_20190815, OC_GW_DPE-4_20190815, OC_GW_DPE-5_20190815, OC_GW_DPE-8_20190815, OC_GW_DPE-9_20190815, OC_GW_DPE-7D_20190815, OC_GW_DPE-10D_20190815, and OC_GW_OW-11_20190816 were qualified as estimated (J+) due to a high MS %R.
- Results for dichlorodifluoromethane in OC_GW_PZ-9_20190820, OC_GW_OW-13B_20190819, OC_GW_OW-13B_20190819K, and OC_GW_OW-13B_20190819N were qualified as estimated (UJ) due to a low laboratory control sample (LCS) recovery.
- The volatile organic tentatively identified compound (TIC) at a retention time (RT) of approximately 2.2 or 2.3 minutes (carbon dioxide) in OC_GW_DPE-4_20190815 and OC_GW_DPE-7D_20190815 was removed by the validator because, based on professional judgment, it is not a true sample component.
- The TICs at RTs of 2.96, 2.97, 14.45, and 16.85 minutes in the re-analysis and diluted analysis of OC_GW_OW-11_20190816 were removed by the validator due to lack of confirmation in the initial sample analysis.
- The results for 1,4-dioxane in all samples were qualified as estimated (J-, UJ) due to low surrogate recoveries.
- The results for 1,4-dioxane in OC_GW_EW-1_20190815, OC_GW_EW-3_20190815, OC_GW_EW-4_20190815, OC_GW_EW-5_20190815, OC_GW_DPE-3_20190815, OC_GW_DPE-4_20190815, OC_GW_DPE-5_20190815, OC_GW_DPE-8_20190815, OC_GW_DPE-9_20190815, OC_GW_DPE-7D_20190815, OC_GW_DPE-10D_20190815, OC_GW_OW-11_20190816, OC_GW_PZ-9_20190820, OC_GW_OW-13B_20190819, and OC_GW_OW-13B_20190819K were qualified as estimated (J-, UJ) due to low recoveries in the LCS and/or LCS duplicate (LCSD).



- The result for 1,4-dioxane in OC_GW_DPE-7D_20190815 was qualified as estimated (J) and presumptively present (N) because the ion ratio was outside the laboratory's acceptance limits.

All other results were determined to be valid as reported

Documentation issues are discussed in Section II. This report should be considered part of the data package for all future distributions of the data.

INTRODUCTION

Analyses were performed in accordance with USEPA SW846 Method 8260B and Method 8270C Selected Ion Monitoring (SIM). The laboratory provided a ‘Level 4’ data package for review.

ddms’ validation was performed, to the extent possible, in conformance with the “Omega Chemical Superfund Site Sampling and Analysis Plan for Remedial Action/Remedial Design October 4, 2010”, ddms SOPs ECS-002 and ECS-003, and the analytical methods. Professional judgment was applied as necessary and appropriate.

The data validation process is intended to evaluate data on a technical basis rather than a contract compliance basis for chemical analyses conducted under the referenced methods. It is assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate and sufficient quality review prior to submission for validation.

During the validation process, laboratory data are verified against all available supporting documentation. Based on the findings of the evaluation, qualifier codes may be added by the data validator. Validated results are, therefore, either qualified or unqualified. Unqualified results mean that the reported values may be used without reservation. Final validated results are annotated with the following codes as defined by the USEPA National Functional Guidelines:

U The analyte was analyzed for but was not detected above the level of the reported sample quantitation limit.

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

J+ The result is an estimated quantity, but the result may be biased high.

J- The result is an estimated quantity, but the result may be biased low.

NJ The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.



All data users should note two facts. First, the "R" qualifier means that the laboratory-reported value is unusable. In other words, due to significant quality control problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Rejected values should not appear on data tables because they cannot be relied upon, even as a last resort. Second, no concentration is guaranteed to be accurate even if all associated quality control is acceptable. Strict quality control conformance serves only to increase confidence in reported results; any analytical result will always contain some error.

The data user is also cautioned that the validation effort is based on the raw data printouts as provided by the laboratory. Software manipulation cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.



I. Holding Times, Preservation and Sample Integrity

Copies of the applicable chain of custody (COC) records were included in the data packages documenting sample collection dates of August 15, 16, 19, and 20, 2019. The samples were received at the laboratory on August 15, 16, and 20, 2019.

The temperatures of the coolers upon receipt at the laboratory were within acceptance limits (acceptable range is $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$) except for the samples collected on August 16, 19, and 20, 2019 (1.7°C and 1.1°C). No action was necessary due to the slightly low cooler temperatures. Documentation of proper pH was included in the data packages. All samples were prepared and analyzed within method holding times.

II. Documentation

The following documentation issue was observed during the validation effort:

- The volatile organic TIC at an RT of approximately 2.2 or 2.3 minutes (carbon dioxide) in OC_GW_DPE-4_20190815 and OC_GW_DPE-7D_20190815 was removed by the validator because it is not a true sample component.

At the discretion of the data user, the laboratory may be contacted and requested to revise the laboratory data packages.

The remainder of this report discusses the review effort for each of the parameters. The table below documents the Quality Control (QC) parameters reviewed. Only those quality excursions resulting in qualified data are discussed below. Quality control excursions having no impact to sample results are not discussed. Where a result was qualified J+ or J- and J, the J qualifier takes precedence. Where a result was qualified biased high and low for differing data quality excursions, the final qualifier is J, with an indeterminate bias.

III. VOCs

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration (Initial Calibration [IC], IC Verification [ICV], Continuing Calibration [CC])	N
Laboratory and Field Blanks	Y
Surrogates	Y
Laboratory Control Samples (LCS)/ LCS Duplicates (LCSD)	N
Field Duplicates	Y
Matrix Spike (MS)/Matrix Spike Duplicate (MSD)	N
Internal Standard Responses	Y
Compound Identification	N

Calibration

Summary results for all associated QC initial calibrations (IC) were reported in support of sample analyses. Although the standards and IC summary forms included more compounds than were specifically applicable to these analyses, all project-specified target analytes were included. For the relevant target analytes, the reported average relative response factors (RRFs) were greater than the evaluation criterion (QC >0.05), and the relative standard deviations (RSDs) were acceptable (<20% RSD). An initial calibration verification (ICV) standard was analyzed immediately following each IC, and all ICV standard results were acceptable (QC <30%D).

Summary forms were provided for all applicable CC standards. Reported RRFs and percent difference (%D) values were acceptable (QC <20%D), except as summarized below. Where excursions represented an increase in instrument sensitivity and the compound was not detected, no data required qualification and these instances are not detailed below.

Instrument	CC Date	Compound	%D	Affected Samples
GCMS43	8/19/2019	Dichlorodifluoromethane (Freon 12)	22	OC_GW_EW-1_20190815
		2,2-Dichloropropane	22	OC_GW_DPE-7D_20190815
		1,2-Dichloroethane	29	OC_GW_DPE-4_20190815
				OC_GW_PZ-9_20190816N
				OC_GW_OW-11_20190816

Sample results were qualified as estimated (J-, UJ) due to low response in the CC.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Percent recoveries and RPDs were acceptable (QC 70-130%R, ≤30 RPD), with the following exceptions:

Compound	MS%R	MSD %R	RPD	Affected Samples
Parent Sample: OC_GW_EW- 20190815				
Trichloroethene	53	46	a	OC_GW_EW-1_20190815 OC_GW_EW-3_20190815 OC_GW_EW-4_20190815 OC_GW_EW-5_20190815 OC_GW_DPE-7D_20190815 OC_GW_DPE-4_20190815 OC_GW_OW-11_20190816
Parent Sample: OC_GW_DPE-7D_ 20190815				
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	177 173	a 38	37	OC_GW_DPE-3_20190815 OC_GW_DPE-4_20190815
1,1-Dichloroethene	137	a	37	OC_GW_DPE-5_20190815
n-butylbenzene	137	a	a	OC_GW_DPE-8_20190815
Trichlorofluoromethane				OC_GW_DPE-9_20190815 OC_GW_DPE-7D_20190815

Compound	MS%R	MSD %R	RPD	Affected Samples
				OC_GW_DPE-10D_20190815
				OC_GW_OW-11_20190816

a = acceptable

The results for trichloroethene in the affected samples were qualified as estimated (J-) due to low MS/MSD recoveries. Results for 1,1,2-trichloro-1,2,2-trifluoroethane, 1,1-dichloroethene, and n-butylbenzene in the affected samples were qualified as estimated (J, UJ) due to the high MS %R and high RPD. Results for trichlorofluoromethane in the affected samples were qualified as estimated (J+) due to the high MS %R.

Laboratory Control Sample (LCS/LCS Duplicate)

All percent recoveries were acceptable (70-130%R) with the following exceptions:

LCS	Compound	LCS%R	Affected Samples
440-564578	Dichlorodifluoromethane	63	OC_GW_PZ-9_20190820 OC_GW_OW-13B_20190819 OC_GW_OW-13B_20190819K OC_GW_OW-13B_20190819N

Sample results were qualified as estimated (UJ) due to the low LCS recovery.

Compound Identification

The TIC at an RT approximately 2.2 or 2.3 minutes (carbon dioxide) in OC_GW_DPE-4_20190815 and OC_GW_DPE-7D_20190815 was removed by the validator because, based on professional judgment, it is not a true sample component.

The TICs at RTs of 2.96, 2.97, 14.45, and 16.85 minutes in the re-analysis and diluted analysis of OC_GW_OW-11_20190816 were removed by the validator due to lack of confirmation in the initial sample analysis.

IV. SVOCs – 1,4-Dioxane only

Review Element	Acceptable?
GC/MS Instrument Tunes	Y
Calibration - IC, ICV, CC	Y
Laboratory and Field Blanks	Y
Surrogates	N
LCS/LCSD	N
Field Duplicates	Y
MS/MSD	N/A
Internal Standard Responses	Y
Compound Identification	N

Surrogates

The results for 1,4-dioxane in all samples were qualified as estimated (J-, UJ) due to low surrogate recoveries (acceptance limits 70-130%R).

Laboratory Control Sample (LCS)

An LCS or an LCS/LCSD pair was prepared with each batch of samples. The percent recoveries and RPDs for 1,4-dioxane were acceptable (QC 70-130%R, RPD<30), with the following exceptions:

LCS/LCSD	LCS %R	LCSD%R	Affected Sample(s)
440-564093	a	65	OC_GW_EW-1_20190815 OC_GW_EW-3_20190815 OC_GW_EW-4_20190815 OC_GW_EW-5_20190815 OC_GW_DPE-3_20190815 OC_GW_DPE-4_20190815 OC_GW_DPE-5_20190815 OC_GW_DPE-8_20190815 OC_GW_DPE-9_20190815 OC_GW_DPE-7D_20190815 OC_GW_DPE-10D_20190815
440-564280	59	54	OC_GW_OW-11_20190816
440-564850	37	none	OC_GW_PZ-9_20190820 OC_GW_OW-13B_20190819 OC_GW_OW-13B_20190819K

a – acceptable

Sample results for 1,4-dioxane were qualified as estimated (J-, UJ) due to low LCS and/or LCSD recoveries.

Compound Identification

For SIM analysis, ratios must be determined during initial calibration, using the integrated areas for the primary and secondary ions from the reference standard mass chromatograms. Confirmation in samples is made by verifying the ratio against the acceptance limits established by the laboratory. The result for 1,4-dioxane in OC_GW_DPE-7D_20190815 was qualified as estimated (J) and presumptively present (N) because the ion ratio was outside the laboratory's acceptance limits.



ATTACHMENT A

DATA SUMMARY FORMS

**440-248097-1
440-248098-1
440-248100-1
440-248231-1
440-248383-1**

Data Summary Form
 Omega Chemical
 Other Groundwaters
 (ug/L)

	Field Sample ID	OC_GW_OW-12_20190815N	OC_TB1_20190815	
	Sample Type	RB	TB	
	Lab Sample ID	440-248097-1	440-248097-2	
RL	Dilution Factor	1	1	
1	1,1,1,2-Tetrachloroethane	1	U	1
1	1,1,1-Trichloroethane (TCA)	1	U	1
1	1,1,2,2-Tetrachloroethane	1	U	1
1	1,1,2-Trichloroethane	1	U	1
1	1,1-Dichloroethane	1	U	1
1	1,1-Dichloroethene	1	U	1
1	1,1-Dichloropropene	1	U	1
1	1,2,3-Trichlorobenzene	1	U	1
1	1,2,3-Trichloropropane	1	U	1
1	1,2,4-Trichlorobenzene	1	U	1
1	1,2,4-Trimethylbenzene	1	U	1
5	1,2-Dibromo-3-chloropropane	5	U	5
1	1,2-Dibromoethane (EDB)	1	U	1
1	1,2-Dichlorobenzene	1	U	1
1	1,2-Dichloroethane	1	U	1
1	1,2-Dichloropropane	1	U	1
1	1,3,5-Trimethylbenzene	1	U	1
1	1,3-Dichlorobenzene	1	U	1
1	1,3-Dichloropropane	1	U	1
1	1,4-Dichlorobenzene	1	U	1
1	2,2-Dichloropropane	1	U	1
1	2-Chlorotoluene	1	U	1
1	4-Chlorotoluene	1	U	1
10	Acetone	20		10
0.5	Benzene	0.5	U	0.5
1	Bromobenzene	1	U	1
1	Bromochloromethane	1	U	1
1	Bromodichloromethane	1	U	1
1	Bromoform	1	U	1
1	Bromomethane	1	U	1
0.5	Carbon tetrachloride	0.5	U	0.5
1	Chlorobenzene	1	U	1
1	Chloroethane	1	U	1
1	Chloroform	1	U	1
1	Chloromethane	1	U	1
1	cis-1,2-Dichloroethene	1	U	1
0.5	cis-1,3-Dichloropropene	0.5	U	0.5
1	Dibromochloromethane	1	U	1
1	Dibromomethane	1	U	1
1	Ethylbenzene	1	U	1
1	Freon 11	1	U	1
5	Freon 113	5	U	5
1	Freon 12	1	U	1
1	Hexachlorobutadiene	1	U	1
250	Isopropyl Alcohol (Isopropanol)	250	U	250
1	Isopropylbenzene	1	U	1
1	m,p-Xylene	1	U	1
1	Methyl Tert-Butyl Ether	1	U	1
5	Methylene chloride	5	U	5
1	Naphthalene	1	U	1
1	N-butylbenzene	1	U	1
1	o-Xylene	1	U	1
1	p-Isopropyltoluene	1	U	1
1	Propylbenzene	1	U	1
1	sec-Butylbenzene	1	U	1
1	Styrene	1	U	1
1	tert-Butylbenzene	1	U	1
1	Tetrachloroethene (PCE)	1	U	1
1	Toluene	1	U	1
1	trans-1,2-Dichloroethene	1	U	1
0.5	trans-1,3-Dichloropropene	0.5	U	0.5
1	Trichloroethene (TCE)	1	U	1
0.5	Vinyl chloride	0.5	U	0.5

Data Summary Form
Omega Chemical
Other Groundwaters
(ug/L)

Field Sample ID		OC_GW_EW-1_20190815		OC_GW_EW-3_20190815		OC_GW_EW-4_20190815	
Sample Type		N		N		N	
Lab Sample ID		440-248098-1		440-248098-2		440-248098-3	
RL	Dilution Factor	1, 5		1		1	
1	1,1,1,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	1	U	1	U
1	1,1,2,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,2-Trichloroethane	0.33	J	1	U	1	U
1	1,1-Dichloroethane	0.38	J	1	U	1	U
1	1,1-Dichloroethene	10		7.7		2	
1	1,1-Dichloropropene	1	U	1	U	1	U
1	1,2,3-Trichlorobenzene	1	U	1	U	1	U
1	1,2,3-Trichloropropane	1	U	1	U	1	U
1	1,2,4-Trichlorobenzene	1	U	1	U	1	U
1	1,2,4-Trimethylbenzene	1	U	1	U	1	U
5	1,2-Dibromo-3-chloropropane	5	U	5	U	5	U
1	1,2-Dibromoethane (EDB)	1	U	1	U	1	U
1	1,2-Dichlorobenzene	1	U	1	U	1	U
1	1,2-Dichloroethane	1.5	J-	1	U	1	U
1	1,2-Dichloropropene	1	U	1	U	1	U
1	1,3,5-Trimethylbenzene	1	U	1	U	1	U
1	1,3-Dichlorobenzene	1	U	1	U	1	U
1	1,3-Dichloropropene	1	U	1	U	1	U
1	1,4-Dichlorobenzene	1	U	1	U	1	U
1	2,2-Dichloropropene	1	UJ	1	U	1	U
1	2-Chlorotoluene	1	U	1	U	1	U
1	4-Chlorotoluene	1	U	1	U	1	U
10	Acetone	10	U	10	U	10	U
0.5	Benzene	0.5	U	0.5	U	0.5	U
1	Bromobenzene	1	U	1	U	1	U
1	Bromochloromethane	1	U	1	U	1	U
1	Bromodichloromethane	1	U	1	U	1	U
1	Bromoform	1	U	1	U	1	U
1	Bromomethane	1	U	1	U	1	U
0.5	Carbon tetrachloride	0.5	U	0.5	U	0.5	U
1	Chlorobenzene	1	U	1	U	1	U
1	Chloroethane	1	U	1	U	1	U
1	Chloroform	14		0.54	J	1	U
1	Chloromethane	1	U	1	U	1	U
1	cis-1,2-Dichloroethene	1	U	1	U	1	U
0.5	cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
1	Dibromochloromethane	1	U	1	U	1	U
1	Dibromomethane	1	U	1	U	1	U
1	Ethylbenzene	1	U	1	U	1	U
1	Freon 11	13		3.3		0.79	J
5	Freon 113	61		6.1		1.3	J
1	Freon 12	1	UJ	1	U	1	U
1	Hexachlorobutadiene	1	U	1	U	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U	250	U	250	U
1	Isopropylbenzene	1	U	1	U	1	U
1	m,p-Xylene	1	U	1	U	1	U
1	Methyl Tert-Butyl Ether	1	U	1	U	1	U
5	Methylene chloride	5	U	5	U	5	U
1	Naphthalene	1	U	1	U	1	U
1	N-butylbenzene	1	U	1	U	1	U
1	o-Xylene	1	U	1	U	1	U
1	p-Isopropyltoluene	1	U	1	U	1	U
1	Propylbenzene	1	U	1	U	1	U
1	sec-Butylbenzene	1	U	1	U	1	U
1	Styrene	1	U	1	U	1	U
1	tert-Butylbenzene	1	U	1	U	1	U
1	Tetrachloroethene (PCE)	250		13		3.4	
1	Toluene	1	U	1	U	1	U
1	trans-1,2-Dichloroethene	1	U	1	U	1	U
0.5	trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
1	Trichloroethene (TCE)	26	J-	1.8	J-	0.44	J-
0.5	Vinyl chloride	0.5	U	0.5	U	0.5	U
0.5	1,4-Dioxane	14	J-	0.67	J-	0.66	J-

Data Summary Form
 Omega Chemical
 Other Groundwaters
 (ug/L)

Field Sample ID		OC_GW_EW-5_20190815	
Sample Type		N	
Lab Sample ID		440-248098-4	
RL	Dilution Factor	1	
1	1,1,1,2-Tetrachloroethane	1	U
1	1,1,1-Trichloroethane (TCA)	1	U
1	1,1,2,2-Tetrachloroethane	1	U
1	1,1,2-Trichloroethane	1	U
1	1,1-Dichloroethane	1	U
1	1,1-Dichloroethene	11	
1	1,1-Dichloropropene	1	U
1	1,2,3-Trichlorobenzene	1	U
1	1,2,3-Trichloropropane	1	U
1	1,2,4-Trichlorobenzene	1	U
1	1,2,4-Trimethylbenzene	1	U
5	1,2-Dibromo-3-chloropropane	5	U
1	1,2-Dibromoethane (EDB)	1	U
1	1,2-Dichlorobenzene	1	U
1	1,2-Dichloroethane	1	U
1	1,2-Dichloropropane	1	U
1	1,3,5-Trimethylbenzene	1	U
1	1,3-Dichlorobenzene	1	U
1	1,3-Dichloropropane	1	U
1	1,4-Dichlorobenzene	1	U
1	2,2-Dichloropropane	1	U
1	2-Chlorotoluene	1	U
1	4-Chlorotoluene	1	U
10	Acetone	10	U
0.5	Benzene	0.5	U
1	Bromobenzene	1	U
1	Bromochloromethane	1	U
1	Bromodichloromethane	1	U
1	Bromoform	1	U
1	Bromomethane	1	U
0.5	Carbon tetrachloride	0.5	U
1	Chlorobenzene	1	U
1	Chloroethane	1	U
1	Chloroform	0.27	J
1	Chloromethane	1	U
1	cis-1,2-Dichloroethene	1	U
0.5	cis-1,3-Dichloropropene	0.5	U
1	Dibromochloromethane	1	U
1	Dibromomethane	1	U
1	Ethylbenzene	1	U
1	Freon 11	25	
5	Freon 113	42	
1	Freon 12	1	U
1	Hexachlorobutadiene	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U
1	Isopropylbenzene	1	U
1	m,p-Xylene	1	U
1	Methyl Tert-Butyl Ether	1	U
5	Methylene chloride	5	U
1	Naphthalene	1	U
1	N-butylbenzene	1	U
1	o-Xylene	1	U
1	p-Isopropyltoluene	1	U
1	Propylbenzene	1	U
1	sec-Butylbenzene	1	U
1	Styrene	1	U
1	tert-Butylbenzene	1	U
1	Tetrachloroethene (PCE)	9.9	
1	Toluene	1	U
1	trans-1,2-Dichloroethene	1	U
0.5	trans-1,3-Dichloropropene	0.5	U
1	Trichloroethene (TCE)	1.5	J-
0.5	Vinyl chloride	0.5	U
0.5	1,4-Dioxane	0.15	J-

Data Summary Form
 Omega Chemical
 Other Groundwaters
 (ug/L)

Field Sample ID		OC_GW_DPE-10D_20190815		OC_GW_DPE-3_20190815		OC_GW_DPE-4_20190815	
Sample Type		N		N		N	
Lab Sample ID		440-248100-7		440-248100-1		440-248100-2	
RL	Dilution Factor	1, 10		1, 10		1, 5	
1	1,1,1,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	6.8		1.7	
1	1,1,2,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,2-Trichloroethane	0.35	J	1	U	0.46	J
1	1,1-Dichloroethane	1.2		1	U	1	U
1	1,1-Dichloroethene	66	J	19	J	18	J
1	1,1-Dichloropropene	1	U	1	U	1	U
1	1,2,3-Trichlorobenzene	1	U	1	U	1	U
1	1,2,3-Trichloropropane	1	U	1	U	1	U
1	1,2,4-Trichlorobenzene	1	U	1	U	1	U
1	1,2,4-Trimethylbenzene	1	U	1	U	1	U
5	1,2-Dibromo-3-chloropropane	5	U	5	U	5	U
1	1,2-Dibromoethane (EDB)	1	U	1	U	1	U
1	1,2-Dichlorobenzene	1	U	1	U	1	U
1	1,2-Dichloroethane	5.2		4.1		2	J-
1	1,2-Dichloropropene	1	U	1	U	1	U
1	1,3,5-Trimethylbenzene	1	U	1	U	1	U
1	1,3-Dichlorobenzene	1	U	1	U	1	U
1	1,3-Dichloropropene	1	U	1	U	1	U
1	1,4-Dichlorobenzene	1	U	1	U	1	U
1	2,2-Dichloropropane	1	U	1	U	1	UJ
1	2-Chlorotoluene	1	U	1	U	1	U
1	4-Chlorotoluene	1	U	1	U	1	U
10	Acetone	10	U	10	U	10	U
0.5	Benzene	0.5	U	0.5	U	0.5	U
1	Bromobenzene	1	U	1	U	1	U
1	Bromochloromethane	1	U	1	U	1	U
1	Bromodichloromethane	1	U	1	U	1	U
1	Bromoform	1	U	1	U	1	U
1	Bromomethane	1	U	1	U	1	U
0.5	Carbon tetrachloride	0.5	U	0.5	U	0.5	U
1	Chlorobenzene	1	U	1	U	1	U
1	Chloroethane	1	U	1	U	1	U
1	Chloroform	29		15		21	
1	Chloromethane	1	U	1	U	1	U
1	cis-1,2-Dichloroethene	1	U	1	U	1	U
0.5	cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
1	Dibromochloromethane	1	U	1	U	1	U
1	Dibromomethane	1	U	1	U	1	U
1	Ethylbenzene	1	U	1	U	1	U
1	Freon 11	43	J+	20	J+	9.7	J+
5	Freon 113	150	J	290	J	360	J
1	Freon 12	1	U	1	U	1	UJ
1	Hexachlorobutadiene	1	U	1	U	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U	250	U	250	U
1	Isopropylbenzene	1	U	1	U	1	U
1	m,p-Xylene	1	U	1	U	1	U
1	Methyl Tert-Butyl Ether	1	U	1	U	1	U
5	Methylene chloride	5	U	5	U	5	U
1	Naphthalene	1	U	1	U	1	U
1	N-butylbenzene	1	UJ	1	UJ	1	UJ
1	o-Xylene	1	U	1	U	1	U
1	p-Isopropyltoluene	1	U	1	U	1	U
1	Propylbenzene	1	U	1	U	1	U
1	sec-Butylbenzene	1	U	1	U	1	U
1	Styrene	1	U	1	U	1	U
1	tert-Butylbenzene	1	U	1	U	1	U
1	Tetrachloroethene (PCE)	520		270		400	
1	Toluene	1	U	1	U	1	U
1	trans-1,2-Dichloroethene	0.47	J	1	U	1	U
0.5	trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
1	Trichloroethene (TCE)	58		38		38	J-
0.5	Vinyl chloride	0.5	U	0.5	U	0.5	U
0.5	1,4-Dioxane	28	J-	9.4	J-	21	J-

Data Summary Form
 Omega Chemical
 Other Groundwaters
 (ug/L)

Field Sample ID		OC_GW_DPE-5_20190815		OC_GW_DPE-7D_20190815		OC_GW_DPE-8_20190815	
Sample Type		N		N		N	
Lab Sample ID		440-248100-3		440-248100-6		440-248100-4	
RL	Dilution Factor	1		1		1	
1	1,1,1,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	1	U	1	U
1	1,1,2,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,2-Trichloroethane	1	U	1	U	1	U
1	1,1-Dichloroethane	1	U	1	U	1	U
1	1,1-Dichloroethene	32	J	15	J	0.48	J
1	1,1-Dichloropropene	1	U	1	U	1	U
1	1,2,3-Trichlorobenzene	1	U	1	U	1	U
1	1,2,3-Trichloropropane	1	U	1	U	1	U
1	1,2,4-Trichlorobenzene	1	U	1	U	1	U
1	1,2,4-Trimethylbenzene	1	U	1	U	1	U
5	1,2-Dibromo-3-chloropropane	5	U	5	U	5	U
1	1,2-Dibromoethane (EDB)	1	U	1	U	1	U
1	1,2-Dichlorobenzene	1	U	1	U	1	U
1	1,2-Dichloroethane	0.46	J	1	UJ	0.25	J
1	1,2-Dichloropropene	1	U	1	U	1	U
1	1,3,5-Trimethylbenzene	1	U	1	U	1	U
1	1,3-Dichlorobenzene	1	U	1	U	1	U
1	1,3-Dichloropropene	1	U	1	U	1	U
1	1,4-Dichlorobenzene	1	U	1	U	1	U
1	2,2-Dichloropropene	1	U	1	UJ	1	U
1	2-Chlorotoluene	1	U	1	U	1	U
1	4-Chlorotoluene	1	U	1	U	1	U
10	Acetone	10	U	10	U	10	U
0.5	Benzene	0.5	U	0.5	U	0.5	U
1	Bromobenzene	1	U	1	U	1	U
1	Bromochloromethane	1	U	1	U	1	U
1	Bromodichloromethane	1	U	1	U	1	U
1	Bromoform	1	U	1	U	1	U
1	Bromomethane	1	U	1	U	1	U
0.5	Carbon tetrachloride	0.5	U	0.5	U	0.5	U
1	Chlorobenzene	1	U	1	U	1	U
1	Chloroethane	1	U	1	U	1	U
1	Chloroform	1.8		1	U	1	U
1	Chloromethane	1	U	1	U	1	U
1	cis-1,2-Dichloroethene	1	U	1	U	1	U
0.5	cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
1	Dibromochloromethane	1	U	1	U	1	U
1	Dibromomethane	1	U	1	U	1	U
1	Ethylbenzene	1	U	1	U	1	U
1	Freon 11	8	J+	5.4	J+	1.7	J+
5	Freon 113	11	J	16	J	2.3	J
1	Freon 12	1	U	1	UJ	1	U
1	Hexachlorobutadiene	1	U	1	U	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U	250	U	250	U
1	Isopropylbenzene	1	U	1	U	1	U
1	m,p-Xylene	1	U	1	U	1	U
1	Methyl Tert-Butyl Ether	1	U	1	U	1	U
5	Methylene chloride	5	U	5	U	5	U
1	Naphthalene	1	U	1	U	1	U
1	N-butylbenzene	1	UJ	1	UJ	1	UJ
1	o-Xylene	1	U	1	U	1	U
1	p-Isopropyltoluene	1	U	1	U	1	U
1	Propylbenzene	1	U	1	U	1	U
1	sec-Butylbenzene	1	U	1	U	1	U
1	Styrene	1	U	1	U	1	U
1	tert-Butylbenzene	1	U	1	U	1	U
1	Tetrachloroethene (PCE)	72		56		13	
1	Toluene	1	U	1	U	1	U
1	trans-1,2-Dichloroethene	1	U	1	U	1	U
0.5	trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
1	Trichloroethene (TCE)	9.1		30	J-	3.2	
0.5	Vinyl chloride	0.5	U	0.5	U	0.5	U
0.5	1,4-Dioxane	4.1	J-	0.1	J,N	5.5	J-

Data Summary Form
 Omega Chemical
 Other Groundwaters
 (ug/L)

Field Sample ID		OC_GW_DPE-9_20190815		OC_TB2_20190815	
Sample Type		N		TB	
Lab Sample ID		440-248100-5		440-248100-8	
RL	Dilution Factor	1		1	
1	1,1,1,2-Tetrachloroethane	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	1	U
1	1,1,2,2-Tetrachloroethane	1	U	1	U
1	1,1,2-Trichloroethane	1	U	1	U
1	1,1-Dichloroethane	1	U	1	U
1	1,1-Dichloroethene	11	J	1	U
1	1,1-Dichloropropene	1	U	1	U
1	1,2,3-Trichlorobenzene	1	U	1	U
1	1,2,3-Trichloropropane	1	U	1	U
1	1,2,4-Trichlorobenzene	1	U	1	U
1	1,2,4-Trimethylbenzene	1	U	1	U
5	1,2-Dibromo-3-chloropropane	5	U	5	U
1	1,2-Dibromoethane (EDB)	1	U	1	U
1	1,2-Dichlorobenzene	1	U	1	U
1	1,2-Dichloroethane	2.2		1	U
1	1,2-Dichloropropane	1	U	1	U
1	1,3,5-Trimethylbenzene	1	U	1	U
1	1,3-Dichlorobenzene	1	U	1	U
1	1,3-Dichloropropane	1	U	1	U
1	1,4-Dichlorobenzene	1	U	1	U
1	2,2-Dichloropropane	1	U	1	U
1	2-Chlorotoluene	1	U	1	U
1	4-Chlorotoluene	1	U	1	U
10	Acetone	10	U	10	U
0.5	Benzene	0.5	U	0.5	U
1	Bromobenzene	1	U	1	U
1	Bromochloromethane	1	U	1	U
1	Bromodichloromethane	1	U	1	U
1	Bromoform	1	U	1	U
1	Bromomethane	1	U	1	U
0.5	Carbon tetrachloride	0.5	U	0.5	U
1	Chlorobenzene	1	U	1	U
1	Chloroethane	1	U	1	U
1	Chloroform	6.5		1	U
1	Chloromethane	1	U	1	U
1	cis-1,2-Dichloroethene	1	U	1	U
0.5	cis-1,3-Dichloropropene	0.5	U	0.5	U
1	Dibromochloromethane	1	U	1	U
1	Dibromomethane	1	U	1	U
1	Ethylbenzene	1	U	1	U
1	Freon 11	6.4	J+	1	U
5	Freon 113	16	J	5	U
1	Freon 12	1	U	1	U
1	Hexachlorobutadiene	1	U	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U	250	U
1	Isopropylbenzene	1	U	1	U
1	m,p-Xylene	1	U	1	U
1	Methyl Tert-Butyl Ether	1	U	1	U
5	Methylene chloride	5	U	5	U
1	Naphthalene	1	U	1	U
1	N-butylbenzene	1	UJ	1	U
1	o-Xylene	1	U	1	U
1	p-Isopropyltoluene	1	U	1	U
1	Propylbenzene	1	U	1	U
1	sec-Butylbenzene	1	U	1	U
1	Styrene	1	U	1	U
1	tert-Butylbenzene	1	U	1	U
1	Tetrachloroethene (PCE)	77		1	U
1	Toluene	1	U	1	U
1	trans-1,2-Dichloroethene	1	U	1	U
0.5	trans-1,3-Dichloropropene	0.5	U	0.5	U
1	Trichloroethene (TCE)	7.5		1	U
0.5	Vinyl chloride	0.5	U	0.5	U
0.5	1,4-Dioxane	38	J-		

Data Summary Form
 Omega Chemical
 Other Groundwaters
 (ug/L)

Field Sample ID		OC_GW_OW-11_20190816		OC_GW_PZ-9_20190816N	
Sample Type		N		RB	
Lab Sample ID		440-248231-2		440-248231-1	
RL	Dilution Factor	1, 5		1	
1	1,1,1,2-Tetrachloroethane	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	1	U
1	1,1,2,2-Tetrachloroethane	1	U	1	U
1	1,1,2-Trichloroethane	1	U	1	U
1	1,1-Dichloroethane	1	U	1	U
1	1,1-Dichloroethene	27	J	1	U
1	1,1-Dichloropropene	1	U	1	U
1	1,2,3-Trichlorobenzene	1	U	1	U
1	1,2,3-Trichloropropane	1	U	1	U
1	1,2,4-Trichlorobenzene	1	U	1	U
1	1,2,4-Trimethylbenzene	1	U	1	U
5	1,2-Dibromo-3-chloropropane	5	U	5	U
1	1,2-Dibromoethane (EDB)	1	U	1	U
1	1,2-Dichlorobenzene	1	U	1	U
1	1,2-Dichloroethane	1	UJ	1	UJ
1	1,2-Dichloropropene	1	U	1	U
1	1,3,5-Trimethylbenzene	1	U	1	U
1	1,3-Dichlorobenzene	1	U	1	U
1	1,3-Dichloropropene	1	U	1	U
1	1,4-Dichlorobenzene	1	U	1	U
1	2,2-Dichloropropene	1	UJ	1	UJ
1	2-Chlorotoluene	1	U	1	U
1	4-Chlorotoluene	1	U	1	U
10	Acetone	10	U	16	
0.5	Benzene	0.5	U	0.5	U
1	Bromobenzene	1	U	1	U
1	Bromochloromethane	1	U	1	U
1	Bromodichloromethane	1	U	1	U
1	Bromoform	1	U	1	U
1	Bromomethane	1	U	1	U
0.5	Carbon tetrachloride	0.5	U	0.5	U
1	Chlorobenzene	1	U	1	U
1	Chloroethane	1	U	1	U
1	Chloroform	0.41	J	1	U
1	Chloromethane	1	U	1	U
1	cis-1,2-Dichloroethene	1	U	1	U
0.5	cis-1,3-Dichloropropene	0.5	U	0.5	U
1	Dibromochloromethane	1	U	1	U
1	Dibromomethane	1	U	1	U
1	Ethylbenzene	1	U	1	U
1	Freon 11	8.6	J+	1	U
5	Freon 113	30	J	5	U
1	Freon 12	1	UJ	1	UJ
1	Hexachlorobutadiene	1	U	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U	250	U
1	Isopropylbenzene	1	U	1	U
1	m,p-Xylene	1	U	1	U
1	Methyl Tert-Butyl Ether	1	U	1	U
5	Methylene chloride	5	U	5	U
1	Naphthalene	1	U	1	U
1	N-butylbenzene	1	UJ	1	U
1	o-Xylene	1	U	1	U
1	p-Isopropyltoluene	1	U	1	U
1	Propylbenzene	1	U	1	U
1	sec-Butylbenzene	1	U	1	U
1	Styrene	1	U	1	U
1	tert-Butylbenzene	1	U	1	U
1	Tetrachloroethene (PCE)	160		1	U
1	Toluene	1	U	1	U
1	trans-1,2-Dichloroethene	1	U	1	U
0.5	trans-1,3-Dichloropropene	0.5	U	0.5	U
1	Trichloroethene (TCE)	37	J-	1	U
0.5	Vinyl chloride	0.5	U	0.5	U
0.5	1,4-Dioxane	0.53	UJ		

Data Summary Form
 Omega Chemical
 Other Groundwaters
 (ug/L)

Field Sample ID		OC_GW_OW-13B_20190819		OC_GW_OW-13B_20190819K		OC_GW_OW-13B_20190819N	
Sample Type		N		FD		RB	
Lab Sample ID		440-248383-2		440-248383-3		440-248383-4	
RL	Dilution Factor	1		1		1	
1	1,1,1,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,1-Trichloroethane (TCA)	1	U	1	U	1	U
1	1,1,2,2-Tetrachloroethane	1	U	1	U	1	U
1	1,1,2-Trichloroethane	1	U	1	U	1	U
1	1,1-Dichloroethane	1	U	1	U	1	U
1	1,1-Dichloroethene	1	U	1	U	1	U
1	1,1-Dichloropropene	1	U	1	U	1	U
1	1,2,3-Trichlorobenzene	1	U	1	U	1	U
1	1,2,3-Trichloropropane	1	U	1	U	1	U
1	1,2,4-Trichlorobenzene	1	U	1	U	1	U
1	1,2,4-Trimethylbenzene	1	U	1	U	1	U
5	1,2-Dibromo-3-chloropropane	5	U	5	U	5	U
1	1,2-Dibromoethane (EDB)	1	U	1	U	1	U
1	1,2-Dichlorobenzene	1	U	1	U	1	U
1	1,2-Dichloroethane	1	U	1	U	1	U
1	1,2-Dichloropropane	1	U	1	U	1	U
1	1,3,5-Trimethylbenzene	1	U	1	U	1	U
1	1,3-Dichlorobenzene	1	U	1	U	1	U
1	1,3-Dichloropropane	1	U	1	U	1	U
1	1,4-Dichlorobenzene	1	U	1	U	1	U
1	2,2-Dichloropropane	1	U	1	U	1	U
1	2-Chlorotoluene	1	U	1	U	1	U
1	4-Chlorotoluene	1	U	1	U	1	U
10	Acetone	10	U	10	U	31	
0.5	Benzene	0.5	U	0.5	U	0.5	U
1	Bromobenzene	1	U	1	U	1	U
1	Bromochloromethane	1	U	1	U	1	U
1	Bromodichloromethane	1	U	1	U	1	U
1	Bromoform	1	U	1	U	1	U
1	Bromomethane	1	U	1	U	1	U
0.5	Carbon tetrachloride	0.5	U	0.5	U	0.5	U
1	Chlorobenzene	1	U	1	U	1	U
1	Chloroethane	1	U	1	U	1	U
1	Chloroform	1	U	1	U	1	U
1	Chloromethane	1	U	1	U	1	U
1	cis-1,2-Dichloroethene	1	U	1	U	1	U
0.5	cis-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
1	Dibromochloromethane	1	U	1	U	1	U
1	Dibromomethane	1	U	1	U	1	U
1	Ethylbenzene	1	U	1	U	1	U
1	Freon 11	1	U	1	U	1	U
5	Freon 113	5	U	5	U	5	U
1	Freon 12	1	UJ	1	UJ	1	UJ
1	Hexachlorobutadiene	1	U	1	U	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U	250	U	250	U
1	Isopropylbenzene	1	U	1	U	1	U
1	m,p-Xylene	1	U	1	U	1	U
1	Methyl Tert-Butyl Ether	1	U	1	U	1	U
5	Methylene chloride	5	U	5	U	5	U
1	Naphthalene	1	U	1	U	1	U
1	N-butylbenzene	1	U	1	U	1	U
1	o-Xylene	1	U	1	U	1	U
1	p-Isopropyltoluene	1	U	1	U	1	U
1	Propylbenzene	1	U	1	U	1	U
1	sec-Butylbenzene	1	U	1	U	1	U
1	Styrene	1	U	1	U	1	U
1	tert-Butylbenzene	1	U	1	U	1	U
1	Tetrachloroethene (PCE)	21		20		1	U
1	Toluene	1	U	1	U	1	U
1	trans-1,2-Dichloroethene	1	U	1	U	1	U
0.5	trans-1,3-Dichloropropene	0.5	U	0.5	U	0.5	U
1	Trichloroethene (TCE)	1	U	1	U	1	U
0.5	Vinyl chloride	0.5	U	0.5	U	0.5	U
0.5	1,4-Dioxane	0.3	J-	0.14	J-		

Data Summary Form
 Omega Chemical
 Other Groundwaters
 (ug/L)

Field Sample ID		OC_GW_PZ-9_20190820	
Sample Type		N	
Lab Sample ID		440-248383-1	
RL	Dilution Factor	1, 2, 5	
1	1,1,1,2-Tetrachloroethane	1	U
1	1,1,1-Trichloroethane (TCA)	1	U
1	1,1,2,2-Tetrachloroethane	1	U
1	1,1,2-Trichloroethane	0.52	J
1	1,1-Dichloroethane	0.83	J
1	1,1-Dichloroethene	31	
1	1,1-Dichloropropene	1	U
1	1,2,3-Trichlorobenzene	1	U
1	1,2,3-Trichloropropane	1	U
1	1,2,4-Trichlorobenzene	1	U
1	1,2,4-Trimethylbenzene	1	U
5	1,2-Dibromo-3-chloropropane	5	U
1	1,2-Dibromoethane (EDB)	1	U
1	1,2-Dichlorobenzene	1	U
1	1,2-Dichloroethane	7.8	
1	1,2-Dichloropropane	1	U
1	1,3,5-Trimethylbenzene	1	U
1	1,3-Dichlorobenzene	1	U
1	1,3-Dichloropropane	1	U
1	1,4-Dichlorobenzene	1	U
1	2,2-Dichloropropane	1	U
1	2-Chlorotoluene	1	U
1	4-Chlorotoluene	1	U
10	Acetone	10	U
0.5	Benzene	0.5	U
1	Bromobenzene	1	U
1	Bromochloromethane	1	U
1	Bromodichloromethane	1	U
1	Bromoform	1	U
1	Bromomethane	1	U
0.5	Carbon tetrachloride	0.5	U
1	Chlorobenzene	1	U
1	Chloroethane	1	U
1	Chloroform	26	
1	Chloromethane	1	U
1	cis-1,2-Dichloroethene	0.31	J
0.5	cis-1,3-Dichloropropene	0.5	U
1	Dibromochloromethane	1	U
1	Dibromomethane	1	U
1	Ethylbenzene	1	U
1	Freon 11	14	
5	Freon 113	45	
1	Freon 12	1	UJ
1	Hexachlorobutadiene	1	U
250	Isopropyl Alcohol (Isopropanol)	250	U
1	Isopropylbenzene	1	U
1	m,p-Xylene	1	U
1	Methyl Tert-Butyl Ether	1	U
5	Methylene chloride	5	U
1	Naphthalene	1	U
1	N-butylbenzene	1	U
1	o-Xylene	1	U
1	p-Isopropyltoluene	1	U
1	Propylbenzene	1	U
1	sec-Butylbenzene	1	U
1	Styrene	1	U
1	tert-Butylbenzene	1	U
1	Tetrachloroethene (PCE)	230	
1	Toluene	1	U
1	trans-1,2-Dichloroethene	0.28	J
0.5	trans-1,3-Dichloropropene	0.5	U
1	Trichloroethene (TCE)	19	
0.5	Vinyl chloride	0.5	U
0.5	1,4-Dioxane	240	J-

ATTACHMENT D

Sanitation Districts of Los Angeles County Industrial Wastewater Self-Monitoring Report

OMEGA CHEMICAL SITE PRP ORGANIZED GROUP

1322 Scott Street,
Suite 104
San Diego, CA 92106
Office :(619)-546-8377, fax: (619) 546-9980
e-mail: edm@demaximis.com

October 9, 2019

Ms. Grace Robinson Hyde
Chief Engineer and General Manager
County Sanitation Districts of Los Angeles County
1955 Workman Mill Road
Whittier, CA 90601-1400

Subject: Self-Monitoring Report – 3rd Quarter 2019
Permit Number 20039, Surcharge Account Number 2113183

Dear Ms. Grace Robinson Hyde,

This letter transmits the 3rd Quarter 2019 Self-Monitoring Report (SMR) for the Omega Chemical Site located at 12520 East Whittier Blvd., Whittier, California. Feel free to contact me if you need any additional information.

Sincerely,

Omega Chemical Site PRP Organized Group



Edward Modiano
Project Coordinator



SANITATION DISTRICTS OF LOS ANGELES COUNTY

GRACE ROBINSON HYDE
CHIEF ENGINEER
AND GENERAL MANAGERPage 1 of 4
Permit Number:
20039
Facility ID:
2113183For information, please call Loretta Benites
(562) 699-7411 Ext. 2927

INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Reporting Period From: 07/01/2019 To: 09/30/2019 Report Due No Later Than : 10/15/2019

Company Name: Omega Chemical Site PRP Group LLC

Wastewater Discharge Address: 12520 WHITTIER Blvd Whittier, CA, 90602

Sample Location: **20039A**

Mailing Address: 1322 Scott Street # 104 San Diego, CA, 92106

Industrial Wastewater Contact Name and Phone Number: Mr. Ravi Subramanian

949-752-5452 x277 - Business

Has Ownership or Occupancy Changed Since the Last Report? Yes No

(Print) Name of Company Collecting Wastewater Sample:

Test America

(Print) Sample Date:

8/16/2019

Daily Wastewater Discharge for Reporting Period

Average: **6,586** GPD
Maximum: **13,752** GPD

Method For Determining Wastewater Flow for Sampling Day

 Direct Measurement
 Adjusted Metered Water Supply
 No Discharge During Reporting Period

Type of Composite Sample

 Time Composite
 Flow Proportioned Composite

Comments:

Parameter (1)	Sample Method (2)	Permit Limit (3)		Test Results (4)	Reporting Limit (5)	Unit (6)	Lab ID Code (7)
Z02 Sample Day Peak Flow				20.6		gpm	
Z01 Sample Day Total Flow				10,030		GPD	
101 pH	GRAB	Federal Daily Minimum	5.0 S.U.	8.7		S.U.	10256
151 Solids, Suspended	COMPOSITE	Local Daily Minimum	6.0 S.U.	ND	1.0	mg/L	10256
252 Sulfide, Soluble	GRAB	Local At Any Time	0.1 mg/L	ND	0.050	mg/L	10256
403 COD, Total	COMPOSITE			ND	20	mg/L	10256
696 1,4-Dioxane	GRAB			19		ug/L	10256
T09 TTO, Volatile	GRAB	Local At Any Time	1000 ug/L	LACSD calculates this value.		ug/L	
601 Methylene Chloride	GRAB			ND	5.0	ug/L	10256
602 Chloroform	GRAB			ND	1.0	ug/L	10256
603 1,1,1-Trichloroethane	GRAB			ND	1.0	ug/L	10256
604 Carbon Tetrachloride	GRAB			ND	0.50	ug/L	10256
605 1,1-Dichloroethene	GRAB			ND	1.0	ug/L	10256
606 Trichloroethylene	GRAB			ND	1.0	ug/L	10256
607 Tetrachloroethylene	GRAB			ND	1.0	ug/L	10256
608 Bromodichloromethane	GRAB			ND	1.0	ug/L	10256
609 Dibromochloromethane	GRAB			ND	1.0	ug/L	10256
610 Bromoform	GRAB			ND	1.0	ug/L	10256
611 Chlorobenzene	GRAB			ND	1.0	ug/L	10256
612 Vinyl Chloride	GRAB			ND	0.50	ug/L	10256
613 o-Dichlorobenzene	GRAB			ND	1.0	ug/L	10256
614 m-Dichlorobenzene	GRAB			ND	1.0	ug/L	10256

Please submit this report to: Sanitation Districts of Los Angeles County - Industrial Waste Section P.O. Box 4998 Whittier, CA 90607-4998

INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Report due no later than : 10/15/2019

Page 2 of 4
Permit Number:
20039
Facility ID:
2113183

Company Name: Omega Chemical Site PRP Group LLC

Sample Location: 20039A Reporting Period From: 07/01/2019 To: 09/30/2019

<u>Parameter (1)</u>	<u>Sample Method (2)</u>	<u>Permit Limit (3)</u>			<u>Test Results (4)</u>	<u>Reporting Limit (5)</u>	<u>Unit (6)</u>	<u>Lab ID Code (7)</u>
615 p-Dichlorobenzene	GRAB				ND	1.0	ug/L	10256
616 1,1-Dichloroethane	GRAB				ND	1.0	ug/L	10256
618 1,1,2-Trichloroethane	GRAB				ND	1.0	ug/L	10256
619 1,2-Dichloroethane	GRAB				ND	1.0	ug/L	10256
620 Benzene	GRAB				ND	0.50	ug/L	10256
621 Toluene	GRAB				ND	1.0	ug/L	10256
624 Ethyl Benzene	GRAB				ND	1.0	ug/L	10256
645 trans-1,2-Dichloroethylene	GRAB				ND	1.0	ug/L	10256
646 Bromomethane	GRAB				ND	1.0	ug/L	10256
647 Chloroethane	GRAB				ND	1.0	ug/L	10256
648 2-Chloroethylvinylether	GRAB				ND	2.0	ug/L	10256
649 Chloromethane	GRAB				ND	1.0	ug/L	10256
650 1,2-Dichloropropane	GRAB				ND	1.0	ug/L	10256
651 cis-1,3-Dichloropropene	GRAB				ND	0.50	ug/L	10256
652 trans-1,3-Dichloropropene	GRAB				ND	0.50	ug/L	10256
653 1,1,2,2-Tetrachloroethane	GRAB				ND	1.0	ug/L	10256
T10 TTO, Semi-Volatile	GRAB	Local	At Any Time	1000 ug/L	LACSD calculates this value.		ug/L	
800 Acenaphthene	GRAB				ND	11	ug/L	10256
801 Acenaphthylene	GRAB				ND	11	ug/L	10256
802 Anthracene	GRAB				ND	11	ug/L	10256
803 Benzidine	GRAB				ND	44	ug/L	10256
804 Benzo(a)anthracene	GRAB				ND	11	ug/L	10256
805 Benzo(a)pyrene	GRAB				ND	11	ug/L	10256
806 Benzo(b)fluoranthene	GRAB				ND	11	ug/L	10256
807 Benzo(g.h.i.)perylene	GRAB				ND	11	ug/L	10256
808 Benzo(k)fluoranthene	GRAB				ND	11	ug/L	10256
809 Bis(2-cl-ethoxy)methane	GRAB				ND	11	ug/L	10256
810 Bis(2-chloroethyl)ether	GRAB				ND	11	ug/L	10256
811 Bis(2-cl-isopropyl)ether	GRAB				ND	11	ug/L	10256
812 bis(2-ethylhexyl) Phthalate	GRAB				ND	22	ug/L	10256
813 4-bromophenyl Phenylether	GRAB				ND	11	ug/L	10256
814 butylbenzyl Phthalate	GRAB				ND	22	ug/L	10256
815 2-Chloronaphthalene	GRAB				ND	11	ug/L	10256
816 4-Chlorophenylphenylether	GRAB				ND	11	ug/L	10256
817 Chrysene	GRAB				ND	11	ug/L	10256
818 dibenzo(a,h)Anthracene	GRAB				ND	22	ug/L	10256
822 3,3-Dichlorobenzidine	GRAB				ND	44	ug/L	10256
823 diethyl Phthalate	GRAB				ND	11	ug/L	10256

INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Report due no later than : 10/15/2019

Page 3 of 4
 Permit Number:
 20039
 Facility ID:
 2113183

Company Name: Omega Chemical Site PRP Group LLC

Sample Location: 20039A Reporting Period From: 07/01/2019 To: 09/30/2019

<u>Parameter (1)</u>	<u>Sample Method (2)</u>	<u>Permit Limit (3)</u>	<u>Test Results (4)</u>	<u>Reporting Limit (5)</u>	<u>Unit (6)</u>	<u>Lab ID Code (7)</u>
824 dimethyl Phthalate	GRAB		ND	11	ug/L	10256
825 di-n-butyl Phthalate	GRAB		ND	22	ug/L	10256
826 2,4-Dinitrotoluene	GRAB		ND	11	ug/L	10256
827 2,6-Dinitrotoluene	GRAB		ND	11	ug/L	10256
828 di-n-octyl Phthalate	GRAB		ND	22	ug/L	10256
829 1,2-Diphenylhydrazine	GRAB		ND	22	ug/L	10256
830 Fluoranthene	GRAB		ND	11	ug/L	10256
831 Fluorene	GRAB		ND	11	ug/L	10256
832 Hexachlorobenzene	GRAB		ND	11	ug/L	10256
833 Hexachlorobutadiene	GRAB		ND	11	ug/L	10256
834 Hexachlorocyclopentadiene	GRAB		ND	22	ug/L	10256
835 Hexachloroethane	GRAB		ND	11	ug/L	10256
836 Indeno(1,2,3-c,d)Pyrene	GRAB		ND	22	ug/L	10256
837 Isophorone	GRAB		ND	11	ug/L	10256
838 Naphthalene	GRAB		ND	11	ug/L	10256
839 Nitrobenzene	GRAB		ND	22	ug/L	10256
840 n-Nitrosodimethylamine	GRAB		ND	22	ug/L	10256
841 n-Nitrosodi-n-Propylamine	GRAB		ND	11	ug/L	10256
842 Phenanthrene	GRAB		ND	11	ug/L	10256
843 Pyrene	GRAB		ND	11	ug/L	10256
845 2-Chlorophenol (Organic-BNA)	GRAB		ND	11	ug/L	10256
846 1,2,4-Trichlorobenzene	GRAB		ND	11	ug/L	10256
847 2,4-Dichlorophenol (Organic-BNA)	GRAB		ND	11	ug/L	10256
848 2,4-Dimethylphenol (Organic-BNA)	GRAB		ND	22	ug/L	10256
849 2,4-Dinitrophenol	GRAB		ND	44	ug/L	10256
850 2-methyl-4,6-dinitrophenol	GRAB		ND	22	ug/L	10256
851 2-Nitrophenol	GRAB		ND	11	ug/L	10256
852 4-Nitrophenol	GRAB		ND	22	ug/L	10256
853 4-chloro-3-Methylphenol (Organic-BNA)	GRAB		ND	22	ug/L	10256
854 Pentachlorophenol (Organic-BNA)	GRAB		ND	22	ug/L	10256
855 Phenol	GRAB		ND	11	ug/L	10256
856 2,4,6-Trichlorophenol	GRAB		ND	22	ug/L	10256
857 n-Nitrosodiphenylamine	GRAB		ND	11	ug/L	10256

INDUSTRIAL WASTEWATER SELF MONITORING REPORT

Report due no later than : 10/15/2019

Page 4 of 4

Permit Number:

20039

Facility ID:

2113183

Company Name: Omega Chemical Site PRP Group LLC

Sample Location: 20039A Reporting Period From: 07/01/2019 To: 09/30/2019

-
- (1) Report the test results from the most recent sample collected within the reporting period and include all laboratory test sheets with the self-monitoring report form.
 - (2) Test results are valid only if the correct sampling method is observed and the laboratory analysis is performed by a State or Sanitation Districts approved laboratory.
 - (3) Permit limits are included on this form for convenience. For a full list of all applicable permit limits, refer to your Permit Data Sheet.
 - (4) Enter "ND" (Non Detect) for any result less than (<) the reporting limit.
 - (5) If the test result is "ND", enter the reporting limit; otherwise leave blank. The reporting limit can be found in your laboratory test sheet.
 - (6) Default units are listed. Cross out and write in applicable units if laboratory did not report results with these same units.
 - (7) Indicate the appropriate laboratory certification I.D. code for each testing parameter.

CERTIFICATION BY PERMITTEE

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of responsible company official:

Nicole Bradley

10/09/2019

Date:

Print name of official:

Nicole Bradley

Title:

Project Manager on Behalf of OPOG

LACSD USE ONLY

Lab Report? Yes No Signature? Yes No Date Received:

Monitoring ID: 558545

Initials: _____



GRACE ROBINSON HYDE
CHIEF ENGINEER
AND GENERAL MANAGER

Page ____ of ____
Permit Number:
20039
Facility ID:
2113183

SUPPLEMENTAL MONITORING DATA (OPTIONAL)

It is not mandatory to perform supplemental monitoring of your facility's wastewater discharge. However, if you choose to perform additional testing, you must report the results of all analyses using this form. Supplemental monitoring data should not include results used in Self-Monitoring Reports.

Company Name: **Omega Chemical Site PRP Group LLC**

Sample Location: 20039A Reporting Period From: 07/01/2019 To: 09/30/2019

(Print) Name of Company Collecting Wastewater Sample:

Comments:

- (1) Include all laboratory test sheets for each reported parameter.
 - (2) Test results are valid only if the correct sampling method is observed and the laboratory analysis is performed by a State or Sanitation Districts approved laboratory.
 - (3) Enter "ND" (Non Detect) for any result less than (<) the reporting limit.
 - (4) If the test result is "ND", enter the reporting limit; otherwise leave blank. The reporting limit can be found in your laboratory test sheet.
 - (5) Indicate the appropriate laboratory certification I.D. code for each testing parameter.
 - (6) If the results are from a split sample that was collected by the Sanitation Districts, write "Yes"; otherwise, leave blank.

CERTIFICATION BY PERMITTEE

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of responsible company official: _____ Date: _____

Print name of official: _____ Title: _____

LACSD USE ONLY - Non-Permit SMR
Lab Report? Yes No Signature? Yes No Date Received: _____ Initials: _____

Please submit this report to: Sanitation Districts of Los Angeles County - Industrial Waste Section P.O. Box 4998 Whittier, CA 90607-4998



Environment Testing
TestAmerica

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ANALYTICAL REPORT

Eurofins TestAmerica, Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

Laboratory Job ID: 440-248179-1

Laboratory Sample Delivery Group: Whittier, CA
Client Project/Site: Omega Chemical - ISCO

For:

Jacob & Hefner Associates P.C.
15375 Barranca Parkway, J-101
Irvine, California 92618

Attn: Trent Henderson

Danielle Roberts

Authorized for release by:
8/30/2019 1:53:00 PM

Danielle Roberts, Senior Project Manager
(949)260-3249
danielle.roberts@testamericainc.com

LINKS

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results through

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
440-248179-1	Composite_20190816	Water	08/16/19 09:20	08/16/19 12:40	
440-248179-2	Grab_20190816	Water	08/16/19 09:30	08/16/19 12:40	

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Case Narrative

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Job ID: 440-248179-1

Laboratory: Eurofins TestAmerica, Irvine

Narrative

Job Narrative 440-248179-1

Comments

No additional comments.

Receipt

The samples were received on 8/16/2019 12:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

GC/MS VOA

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 440-564140 recovered above the upper control limit for Isopropyl alcohol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: Grab_20190816 (440-248179-2) and (CCV 440-564140/3).

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 440-564140 recovered outside control limits for the following analyte: Isopropyl alcohol. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270C: The laboratory control sample (LCS) for preparation batch 440-563925 and analytical batch 440-564233 recovered outside control limits for the following analyte(s): 4-Chloroaniline has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method(s) 8270C: The RPD of the laboratory control sample duplicate (LCSD) for batch preparation batch 440-563925 and analytical batch 440-564233 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, 4-Chloroaniline and Hexachlorocyclopentadiene.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Client Sample ID: Composite_20190816

Lab Sample ID: 440-248179-1

No Detections.

Client Sample ID: Grab_20190816

Lab Sample ID: 440-248179-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	19		0.54	ug/L	1		8270C SIM	Total/NA
pH	8.7	HF	0.1	SU	1		SM 4500 H+ B	Total/NA
Field pH	8.66			SU	1		Field Sampling	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Client Sample ID: Composite_20190816

Date Collected: 08/16/19 09:20
Date Received: 08/16/19 12:40

Lab Sample ID: 440-248179-1

Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	mg/L			08/21/19 16:32	1
Chemical Oxygen Demand	ND		20	mg/L			08/21/19 14:36	1

Client Sample ID: Grab_20190816

Date Collected: 08/16/19 09:30
Date Received: 08/16/19 12:40

Lab Sample ID: 440-248179-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			08/20/19 02:51	1
1,1,1-Trichloroethane	ND		1.0	ug/L			08/20/19 02:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			08/20/19 02:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			08/20/19 02:51	1
1,1,2-Trichloroethane	ND		1.0	ug/L			08/20/19 02:51	1
2-Chloroethyl vinyl ether	ND		2.0	ug/L			08/19/19 09:58	1
1,1-Dichloroethane	ND		1.0	ug/L			08/20/19 02:51	1
Acrolein	ND		5.0	ug/L			08/19/19 09:58	1
1,1-Dichloroethene	ND		1.0	ug/L			08/20/19 02:51	1
Acrylonitrile	ND		2.0	ug/L			08/19/19 09:58	1
1,1-Dichloropropene	ND		1.0	ug/L			08/20/19 02:51	1
Total Volatile Organic Compounds	ND		150	ug/L			08/19/19 09:58	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			08/20/19 02:51	1
1,2,3-Trichloropropane	ND		1.0	ug/L			08/20/19 02:51	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			08/20/19 02:51	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			08/20/19 02:51	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			08/20/19 02:51	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			08/20/19 02:51	1
1,2-Dichlorobenzene	ND		1.0	ug/L			08/20/19 02:51	1
1,2-Dichloroethane	ND		1.0	ug/L			08/20/19 02:51	1
1,2-Dichloropropane	ND		1.0	ug/L			08/20/19 02:51	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			08/20/19 02:51	1
1,3-Dichlorobenzene	ND		1.0	ug/L			08/20/19 02:51	1
1,3-Dichloropropane	ND		1.0	ug/L			08/20/19 02:51	1
1,4-Dichlorobenzene	ND		1.0	ug/L			08/20/19 02:51	1
2,2-Dichloropropane	ND		1.0	ug/L			08/20/19 02:51	1
2-Chlorotoluene	ND		1.0	ug/L			08/20/19 02:51	1
4-Chlorotoluene	ND		1.0	ug/L			08/20/19 02:51	1
Acetone	ND		10	ug/L			08/20/19 02:51	1
Benzene	ND		0.50	ug/L			08/20/19 02:51	1
Bromobenzene	ND		1.0	ug/L			08/20/19 02:51	1
Bromochloromethane	ND		1.0	ug/L			08/20/19 02:51	1
Bromodichloromethane	ND		1.0	ug/L			08/20/19 02:51	1
Bromoform	ND		1.0	ug/L			08/20/19 02:51	1
Bromomethane	ND		1.0	ug/L			08/20/19 02:51	1
Carbon tetrachloride	ND		0.50	ug/L			08/20/19 02:51	1
Chlorobenzene	ND		1.0	ug/L			08/20/19 02:51	1
Chloroethane	ND		1.0	ug/L			08/20/19 02:51	1
Chloroform	ND		1.0	ug/L			08/20/19 02:51	1
Chloromethane	ND		1.0	ug/L			08/20/19 02:51	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			08/20/19 02:51	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Client Sample ID: Grab_20190816

Lab Sample ID: 440-248179-2

Date Collected: 08/16/19 09:30

Matrix: Water

Date Received: 08/16/19 12:40

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		0.50	ug/L		08/20/19 02:51		1
Dibromochloromethane	ND		1.0	ug/L		08/20/19 02:51		1
Dibromomethane	ND		1.0	ug/L		08/20/19 02:51		1
Dichlorodifluoromethane	ND		1.0	ug/L		08/20/19 02:51		1
Ethylbenzene	ND		1.0	ug/L		08/20/19 02:51		1
Hexachlorobutadiene	ND		1.0	ug/L		08/20/19 02:51		1
Isopropylbenzene	ND		1.0	ug/L		08/20/19 02:51		1
m,p-Xylene	ND		1.0	ug/L		08/20/19 02:51		1
Methylene Chloride	ND		5.0	ug/L		08/20/19 02:51		1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L		08/20/19 02:51		1
Naphthalene	ND		1.0	ug/L		08/20/19 02:51		1
n-Butylbenzene	ND		1.0	ug/L		08/20/19 02:51		1
N-Propylbenzene	ND		1.0	ug/L		08/20/19 02:51		1
o-Xylene	ND		1.0	ug/L		08/20/19 02:51		1
p-Isopropyltoluene	ND		1.0	ug/L		08/20/19 02:51		1
sec-Butylbenzene	ND		1.0	ug/L		08/20/19 02:51		1
Styrene	ND		1.0	ug/L		08/20/19 02:51		1
tert-Butylbenzene	ND		1.0	ug/L		08/20/19 02:51		1
Tetrachloroethene	ND		1.0	ug/L		08/20/19 02:51		1
Toluene	ND		1.0	ug/L		08/20/19 02:51		1
trans-1,2-Dichloroethene	ND		1.0	ug/L		08/20/19 02:51		1
trans-1,3-Dichloropropene	ND		0.50	ug/L		08/20/19 02:51		1
Trichloroethene	ND		1.0	ug/L		08/20/19 02:51		1
Trichlorofluoromethane	ND		1.0	ug/L		08/20/19 02:51		1
Vinyl chloride	ND		0.50	ug/L		08/20/19 02:51		1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		70 - 130		08/19/19 09:58	1
4-Bromofluorobenzene (Surr)	97		80 - 120		08/19/19 09:58	1
Dibromofluoromethane (Surr)	109		76 - 132		08/19/19 09:58	1
Toluene-d8 (Surr)	95		80 - 128		08/19/19 09:58	1
1,2-Dichloroethane-d4 (Surr)	114		70 - 130		08/20/19 02:51	1
4-Bromofluorobenzene (Surr)	95		80 - 120		08/20/19 02:51	1
Dibromofluoromethane (Surr)	109		76 - 132		08/20/19 02:51	1
Toluene-d8 (Surr)	102		80 - 128		08/20/19 02:51	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	ug/L		08/26/19 12:05		1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	67	X	70 - 130		08/26/19 12:05	1
4-Bromofluorobenzene (Surr)	96		80 - 120		08/26/19 12:05	1
Dibromofluoromethane (Surr)	90		76 - 132		08/26/19 12:05	1
Toluene-d8 (Surr)	110		80 - 128		08/26/19 12:05	1

Method: 8270C SIM - 1,4 Dioxane by SIM

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	19		0.54	ug/L		08/18/19 12:18	08/19/19 23:17	1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Client Sample ID: Grab_20190816

Date Collected: 08/16/19 09:30

Date Received: 08/16/19 12:40

Lab Sample ID: 440-248179-2

Matrix: Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	57		27 - 120	08/18/19 12:18	08/19/19 23:17	1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
1,2-Dichlorobenzene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
1,2-Diphenylhydrazine(as Azobenzene)	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
1,3-Dichlorobenzene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
1,4-Dichlorobenzene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2,4,5-Trichlorophenol	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
2,4,6-Trichlorophenol	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
2,4-Dichlorophenol	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2,4-Dimethylphenol	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
2,4-Dinitrophenol	ND		44	ug/L	08/18/19 12:41	08/21/19 01:01		1
2,4-Dinitrotoluene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2,6-Dinitrotoluene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2-Chloronaphthalene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2-Chlorophenol	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2-Methylnaphthalene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2-Methylphenol	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
2-Nitroaniline	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
2-Nitrophenol	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
3,3'-Dichlorobenzidine	ND *		44	ug/L	08/18/19 12:41	08/21/19 01:01		1
3-Methylphenol + 4-Methylphenol	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
3-Nitroaniline	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
4,6-Dinitro-2-methylphenol	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
4-Bromophenyl phenyl ether	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
4-Chloro-3-methylphenol	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
4-Chloroaniline	ND *		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
4-Chlorophenyl phenyl ether	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
4-Nitroaniline	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
4-Nitrophenol	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
Acenaphthene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Acenaphthylene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Aniline	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Anthracene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzidine	ND		44	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzo[a]anthracene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzo[a]pyrene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzo[b]fluoranthene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzo[g,h,i]perylene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzo[k]fluoranthene	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzoic acid	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
Benzyl alcohol	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
bis (2-chloroisopropyl) ether	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Bis(2-chloroethoxy)methane	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Bis(2-chloroethyl)ether	ND		11	ug/L	08/18/19 12:41	08/21/19 01:01		1
Bis(2-ethylhexyl) phthalate	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1
Butyl benzyl phthalate	ND		22	ug/L	08/18/19 12:41	08/21/19 01:01		1

Eurofins TestAmerica, Irvine

Client Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Client Sample ID: Grab_20190816

Lab Sample ID: 440-248179-2

Date Collected: 08/16/19 09:30

Matrix: Water

Date Received: 08/16/19 12:40

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chrysene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Dibenz(a,h)anthracene	ND		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
Dibenzofuran	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Diethyl phthalate	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Dimethyl phthalate	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Di-n-butyl phthalate	ND		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
Di-n-octyl phthalate	ND		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
Fluoranthene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Fluorene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Hexachlorobenzene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Hexachlorobutadiene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Hexachlorocyclopentadiene	ND *		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
Hexachloroethane	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Indeno[1,2,3-cd]pyrene	ND		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
Isophorone	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Naphthalene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Nitrobenzene	ND		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
N-Nitrosodimethylamine	ND		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
N-Nitrosodi-n-propylamine	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
N-Nitrosodiphenylamine	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Pentachlorophenol	ND		22	ug/L		08/18/19 12:41	08/21/19 01:01	1
Phenanthrene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Phenol	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1
Pyrene	ND		11	ug/L		08/18/19 12:41	08/21/19 01:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	91		40 - 120	08/18/19 12:41	08/21/19 01:01	1
2-Fluorobiphenyl	79		50 - 120	08/18/19 12:41	08/21/19 01:01	1
2-Fluorophenol (Surr)	71		30 - 120	08/18/19 12:41	08/21/19 01:01	1
Nitrobenzene-d5 (Surr)	76		45 - 120	08/18/19 12:41	08/21/19 01:01	1
Phenol-d6 (Surr)	72		35 - 120	08/18/19 12:41	08/21/19 01:01	1
Terphenyl-d14 (Surr)	49		10 - 150	08/18/19 12:41	08/21/19 01:01	1

General Chemistry

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.7	HF	0.1	SU		08/19/19 15:13		1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Dissolved	ND		0.050	mg/L		08/19/19 15:50	08/19/19 16:49	1

Method: Field Sampling - Field Sampling

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Field pH	8.66			SU		08/16/19 09:30		1

Surrogate Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-130)	BFB (80-120)	DBFM (76-132)	TOL (80-128)
440-248179-2	Grab_20190816	115	97	109	95
440-248179-2	Grab_20190816	114	95	109	102
440-248179-2 - RA	Grab_20190816	67 X	96	90	110
440-248179-2 MS	Grab_20190816	116	99	105	88
440-248179-2 MSD	Grab_20190816	120	98	106	89
440-248319-A-1 MS	Matrix Spike	121	98	108	90
440-248319-A-1 MSD	Matrix Spike Duplicate	118	99	107	96
440-248662-A-3 MS	Matrix Spike	66 X	91	90	103
440-248662-A-3 MSD	Matrix Spike Duplicate	66 X	92	89	106
LCS 440-563964/26	Lab Control Sample	103	103	105	87
LCS 440-564140/1003	Lab Control Sample	109	93	108	95
LCS 440-564140/5	Lab Control Sample	121	99	108	89
LCS 440-565352/1003	Lab Control Sample	71	96	92	105
MB 440-563964/4	Method Blank	115	101	110	100
MB 440-564140/4	Method Blank	120	98	110	95
MB 440-565352/4	Method Blank	69 X	96	94	106

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		TBP (40-120)	FBP (50-120)	2FP (30-120)	NBZ (45-120)	PHL6 (35-120)	TPHL (10-150)
440-248179-2	Grab_20190816	91	79	71	76	72	49
LCS 440-563925/2-A	Lab Control Sample	103	80	71	77	72	104
LCSD 440-563925/3-A	Lab Control Sample Dup	92	72	68	72	71	87
MB 440-563925/1-A	Method Blank	82	70	57	62	58	97

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

PHL6 = Phenol-d6 (Surr)

TPHL = Terphenyl-d14 (Surr)

Method: 8270C SIM - 1,4 Dioxane by SIM

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DXE (27-120)			
440-248179-2	Grab_20190816	57			
440-248220-E-1-A MS	Matrix Spike	76			
440-248220-E-1-B MSD	Matrix Spike Duplicate	70			

Eurofins TestAmerica, Irvine

Surrogate Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1

SDG: Whittier, CA

Method: 8270C SIM - 1,4 Dioxane by SIM (Continued)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	DXE (27-120)	Percent Surrogate Recovery (Acceptance Limits)											
			74	75	76	77	78	79	80	81	82	83	84	85
LCS 440-563923/3-A	Lab Control Sample	74												
MB 440-563923/1-A	Method Blank	62												

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

Method Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL IRV
8270C SIM	1,4 Dioxane by SIM	SW846	TAL IRV
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL IRV
SM 4500 H+ B	pH	SM	TAL IRV
SM 4500 S2 D	Sulfide, Total	SM	TAL IRV
SM 5220D	COD	SM	TAL IRV
Field Sampling	Field Sampling	EPA	TAL IRV
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV
SM 4500 S2 B	Sulfide, Separation of Soluble and Insoluble	SM	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
 SDG: Whittier, CA

Client Sample ID: Composite_20190816

Lab Sample ID: 440-248179-1

Matrix: Water

Date Collected: 08/16/19 09:20

Date Received: 08/16/19 12:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540D		1	1000 mL	1000 mL	564674	08/21/19 16:32	HTL	TAL IRV
Total/NA	Analysis	SM 5220D		1	2 mL	2 mL	564644	08/21/19 14:36	KYP	TAL IRV

Client Sample ID: Grab_20190816

Lab Sample ID: 440-248179-2

Matrix: Water

Date Collected: 08/16/19 09:30

Date Received: 08/16/19 12:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B	RA	1	10 mL	10 mL	565352	08/26/19 12:05	AI	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	563964	08/19/19 09:58	TCN	TAL IRV
Total/NA	Analysis	8260B		1	10 mL	10 mL	564140	08/20/19 02:51	WC	TAL IRV
Total/NA	Prep	3520C			905 mL	2.0 mL	563925	08/18/19 12:41	HCK	TAL IRV
Total/NA	Analysis	8270C		1			564438	08/21/19 01:01	L1B	TAL IRV
Total/NA	Prep	3520C			925 mL	1.0 mL	563923	08/18/19 12:18	HCK	TAL IRV
Total/NA	Analysis	8270C SIM		1			564123	08/19/19 23:17	YCL	TAL IRV
Total/NA	Analysis	SM 4500 H+ B		1			564053	08/19/19 15:13	ST	TAL IRV
Dissolved	Prep	SM 4500 S2 B			7.5 mL	7.5 mL	564127	08/19/19 15:50	KMY	TAL IRV
Dissolved	Analysis	SM 4500 S2 D		1	7.5 mL	7.5 mL	564157	08/19/19 16:49	KMY	TAL IRV
Total/NA	Analysis	Field Sampling		1			563942	08/16/19 09:30	P1A	TAL IRV

Laboratory References:

TAL IRV = Eurofins TestAmerica, Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-563964/4

Matrix: Water

Analysis Batch: 563964

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chloroethyl vinyl ether	ND		2.0	ug/L			08/19/19 08:29	1
Acrolein	ND		5.0	ug/L			08/19/19 08:29	1
Acrylonitrile	ND		2.0	ug/L			08/19/19 08:29	1
Total Volatile Organic Compounds	ND		150	ug/L			08/19/19 08:29	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		70 - 130		08/19/19 08:29	1
4-Bromofluorobenzene (Surr)	101		80 - 120		08/19/19 08:29	1
Dibromofluoromethane (Surr)	110		76 - 132		08/19/19 08:29	1
Toluene-d8 (Surr)	100		80 - 128		08/19/19 08:29	1

Lab Sample ID: LCS 440-563964/26

Matrix: Water

Analysis Batch: 563964

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
2-Chloroethyl vinyl ether	10.0	14.3		ug/L		143	37 - 150
Acrolein	9.88	12.5		ug/L		127	10 - 145
Acrylonitrile	100	99.7		ug/L		100	48 - 140
Total Volatile Organic Compounds	2150	2080		ug/L		97	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		70 - 130
4-Bromofluorobenzene (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	105		76 - 132
Toluene-d8 (Surr)	87		80 - 128

Lab Sample ID: 440-248179-2 MS

Matrix: Water

Analysis Batch: 563964

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec.
2-Chloroethyl vinyl ether	ND		10.0	11.2		ug/L		112	10 - 140
Acrolein	ND		9.88	11.1		ug/L		113	10 - 147
Acrylonitrile	ND		100	120		ug/L		120	38 - 144
Total Volatile Organic Compounds	ND		2150	1960		ug/L		91	

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	116		70 - 130
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	105		76 - 132
Toluene-d8 (Surr)	88		80 - 128

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Client Sample ID: Grab_20190816

Prep Type: Total/NA

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
 SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248179-2 MSD

Matrix: Water

Analysis Batch: 563964

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD RPD	RPD Limit
2-Chloroethyl vinyl ether	ND		10.0	10.8		ug/L		108	10 - 140	4	35
Acrolein	ND		9.88	10.0		ug/L		101	10 - 147	11	40
Acrylonitrile	ND		100	112		ug/L		112	38 - 144	7	40
Total Volatile Organic Compounds	ND		2150	2110		ug/L		98		7	30

Client Sample ID: Grab_20190816

Prep Type: Total/NA

MSD MSD

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	120		70 - 130
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	106		76 - 132
Toluene-d8 (Surr)	89		80 - 128

Lab Sample ID: MB 440-564140/4

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Method Blank

Prep Type: Total/NA

MB MB

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			08/19/19 21:24	1
1,1,1-Trichloroethane	ND		1.0	ug/L			08/19/19 21:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	ug/L			08/19/19 21:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		5.0	ug/L			08/19/19 21:24	1
1,1,2-Trichloroethane	ND		1.0	ug/L			08/19/19 21:24	1
1,1-Dichloroethane	ND		1.0	ug/L			08/19/19 21:24	1
1,1-Dichloroethene	ND		1.0	ug/L			08/19/19 21:24	1
1,1-Dichloropropene	ND		1.0	ug/L			08/19/19 21:24	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			08/19/19 21:24	1
1,2,3-Trichloropropane	ND		1.0	ug/L			08/19/19 21:24	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			08/19/19 21:24	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
1,2-Dibromo-3-Chloropropane	ND		5.0	ug/L			08/19/19 21:24	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			08/19/19 21:24	1
1,2-Dichlorobenzene	ND		1.0	ug/L			08/19/19 21:24	1
1,2-Dichloroethane	ND		1.0	ug/L			08/19/19 21:24	1
1,2-Dichloropropane	ND		1.0	ug/L			08/19/19 21:24	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
1,3-Dichlorobenzene	ND		1.0	ug/L			08/19/19 21:24	1
1,3-Dichloropropane	ND		1.0	ug/L			08/19/19 21:24	1
1,4-Dichlorobenzene	ND		1.0	ug/L			08/19/19 21:24	1
2,2-Dichloropropane	ND		1.0	ug/L			08/19/19 21:24	1
2-Chlorotoluene	ND		1.0	ug/L			08/19/19 21:24	1
4-Chlorotoluene	ND		1.0	ug/L			08/19/19 21:24	1
Acetone	ND		10	ug/L			08/19/19 21:24	1
Benzene	ND		0.50	ug/L			08/19/19 21:24	1
Bromobenzene	ND		1.0	ug/L			08/19/19 21:24	1
Bromochloromethane	ND		1.0	ug/L			08/19/19 21:24	1
Bromodichloromethane	ND		1.0	ug/L			08/19/19 21:24	1
Bromoform	ND		1.0	ug/L			08/19/19 21:24	1
Bromomethane	ND		1.0	ug/L			08/19/19 21:24	1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-564140/4

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	ND		0.50	ug/L			08/19/19 21:24	1
Chlorobenzene	ND		1.0	ug/L			08/19/19 21:24	1
Chloroethane	ND		1.0	ug/L			08/19/19 21:24	1
Chloroform	ND		1.0	ug/L			08/19/19 21:24	1
Chloromethane	ND		1.0	ug/L			08/19/19 21:24	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			08/19/19 21:24	1
cis-1,3-Dichloropropene	ND		0.50	ug/L			08/19/19 21:24	1
Dibromochloromethane	ND		1.0	ug/L			08/19/19 21:24	1
Dibromomethane	ND		1.0	ug/L			08/19/19 21:24	1
Dichlorodifluoromethane	ND		1.0	ug/L			08/19/19 21:24	1
Ethylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
Hexachlorobutadiene	ND		1.0	ug/L			08/19/19 21:24	1
Isopropyl alcohol	ND		250	ug/L			08/19/19 21:24	1
Isopropylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
m,p-Xylene	ND		1.0	ug/L			08/19/19 21:24	1
Methylene Chloride	ND		5.0	ug/L			08/19/19 21:24	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	ug/L			08/19/19 21:24	1
Naphthalene	ND		1.0	ug/L			08/19/19 21:24	1
n-Butylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
N-Propylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
o-Xylene	ND		1.0	ug/L			08/19/19 21:24	1
p-Isopropyltoluene	ND		1.0	ug/L			08/19/19 21:24	1
sec-Butylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
Styrene	ND		1.0	ug/L			08/19/19 21:24	1
tert-Butylbenzene	ND		1.0	ug/L			08/19/19 21:24	1
Tetrachloroethene	ND		1.0	ug/L			08/19/19 21:24	1
Toluene	ND		1.0	ug/L			08/19/19 21:24	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			08/19/19 21:24	1
trans-1,3-Dichloropropene	ND		0.50	ug/L			08/19/19 21:24	1
Trichloroethene	ND		1.0	ug/L			08/19/19 21:24	1
Trichlorofluoromethane	ND		1.0	ug/L			08/19/19 21:24	1
Vinyl chloride	ND		0.50	ug/L			08/19/19 21:24	1

Surrogate	%Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		70 - 130		08/19/19 21:24	1
4-Bromofluorobenzene (Surr)	98		80 - 120		08/19/19 21:24	1
Dibromofluoromethane (Surr)	110		76 - 132		08/19/19 21:24	1
Toluene-d8 (Surr)	95		80 - 128		08/19/19 21:24	1

Lab Sample ID: LCS 440-564140/1003

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol	250	417	*	ug/L		167	49 - 142
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	109		70 - 130				

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
 SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-564140/1003

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	93				80 - 120
Dibromofluoromethane (Surr)	108				76 - 132
Toluene-d8 (Surr)	95				80 - 128

Lab Sample ID: LCS 440-564140/5

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
1,1,1,2-Tetrachloroethane	10.0	9.48		ug/L		95	60 - 141	
1,1,1-Trichloroethane	10.0	10.1		ug/L		101	70 - 130	
1,1,2,2-Tetrachloroethane	10.0	11.7		ug/L		117	63 - 130	
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.49		ug/L		95	60 - 140	
1,1,2-Trichloroethane	10.0	10.4		ug/L		104	70 - 130	
1,1-Dichloroethane	10.0	10.1		ug/L		101	64 - 130	
1,1-Dichloroethene	10.0	9.51		ug/L		95	70 - 130	
1,1-Dichloropropene	10.0	9.09		ug/L		91	70 - 130	
1,2,3-Trichlorobenzene	10.0	11.2		ug/L		112	60 - 140	
1,2,3-Trichloropropane	10.0	12.6		ug/L		126	63 - 130	
1,2,4-Trichlorobenzene	10.0	11.0		ug/L		110	60 - 140	
1,2,4-Trimethylbenzene	10.0	10.2		ug/L		102	70 - 135	
1,2-Dibromo-3-Chloropropane	10.0	13.1		ug/L		131	52 - 140	
1,2-Dibromoethane (EDB)	10.0	10.9		ug/L		109	70 - 130	
1,2-Dichlorobenzene	10.0	10.5		ug/L		105	70 - 130	
1,2-Dichloroethane	10.0	11.2		ug/L		112	57 - 138	
1,2-Dichloropropane	10.0	10.3		ug/L		103	67 - 130	
1,3,5-Trimethylbenzene	10.0	10.1		ug/L		101	70 - 136	
1,3-Dichlorobenzene	10.0	10.4		ug/L		104	70 - 130	
1,3-Dichloropropane	10.0	10.3		ug/L		103	70 - 130	
1,4-Dichlorobenzene	10.0	9.91		ug/L		99	70 - 130	
2,2-Dichloropropane	10.0	8.91		ug/L		89	68 - 141	
2-Chlorotoluene	10.0	9.66		ug/L		97	70 - 130	
4-Chlorotoluene	10.0	10.2		ug/L		102	70 - 130	
Acetone	50.0	55.2		ug/L		110	10 - 150	
Benzene	10.0	9.60		ug/L		96	68 - 130	
Bromobenzene	10.0	9.70		ug/L		97	70 - 130	
Bromochloromethane	10.0	11.3		ug/L		113	70 - 130	
Bromodichloromethane	10.0	10.9		ug/L		109	70 - 132	
Bromoform	10.0	11.5		ug/L		115	60 - 148	
Bromomethane	10.0	9.17		ug/L		92	64 - 139	
Carbon tetrachloride	10.0	10.0		ug/L		100	60 - 150	
Chlorobenzene	10.0	8.99		ug/L		90	70 - 130	
Chloroethane	10.0	8.92		ug/L		89	64 - 135	
Chloroform	10.0	10.5		ug/L		105	70 - 130	
Chloromethane	10.0	8.29		ug/L		83	47 - 140	
cis-1,2-Dichloroethene	10.0	10.7		ug/L		107	70 - 133	
cis-1,3-Dichloropropene	10.0	9.54		ug/L		95	70 - 133	
Dibromochloromethane	10.0	10.7		ug/L		107	69 - 145	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-564140/5

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Dibromomethane	10.0	11.8		ug/L		118	70 - 130
Dichlorodifluoromethane	10.0	7.95		ug/L		79	29 - 150
Ethylbenzene	10.0	9.17		ug/L		92	70 - 130
Hexachlorobutadiene	10.0	9.81		ug/L		98	10 - 150
Isopropylbenzene	10.0	9.59		ug/L		96	70 - 136
m,p-Xylene	10.0	9.06		ug/L		91	70 - 130
Methylene Chloride	10.0	10.2		ug/L		102	52 - 130
Methyl-t-Butyl Ether (MTBE)	10.0	12.6		ug/L		126	63 - 131
Naphthalene	10.0	12.7		ug/L		127	60 - 140
n-Butylbenzene	10.0	10.1		ug/L		101	65 - 150
N-Propylbenzene	10.0	9.72		ug/L		97	67 - 139
o-Xylene	10.0	10.0		ug/L		100	70 - 130
p-Isopropyltoluene	10.0	9.74		ug/L		97	70 - 132
sec-Butylbenzene	10.0	9.93		ug/L		99	70 - 138
Styrene	10.0	9.66		ug/L		97	70 - 134
tert-Butylbenzene	10.0	9.54		ug/L		95	70 - 130
Tetrachloroethene	10.0	8.66		ug/L		87	70 - 130
Toluene	10.0	8.61		ug/L		86	70 - 130
trans-1,2-Dichloroethene	10.0	9.75		ug/L		97	70 - 130
trans-1,3-Dichloropropene	10.0	10.5		ug/L		105	70 - 132
Trichloroethene	10.0	9.74		ug/L		97	70 - 130
Trichlorofluoromethane	10.0	9.40		ug/L		94	60 - 150
Vinyl chloride	10.0	8.77		ug/L		88	59 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	121		70 - 130
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	108		76 - 132
Toluene-d8 (Surr)	89		80 - 128

Lab Sample ID: 440-248319-A-1 MS

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,1,1,2-Tetrachloroethane	ND		10.0	9.49		ug/L		95	60 - 149
1,1,1-Trichloroethane	ND		10.0	9.74		ug/L		97	70 - 130
1,1,2,2-Tetrachloroethane	ND		10.0	11.8		ug/L		118	63 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	9.32		ug/L		93	60 - 140
1,1,2-Trichloroethane	ND		10.0	10.2		ug/L		102	70 - 130
1,1-Dichloroethane	ND		10.0	9.61		ug/L		96	65 - 130
1,1-Dichloroethene	ND		10.0	8.75		ug/L		87	70 - 130
1,1-Dichloropropene	ND		10.0	9.28		ug/L		93	64 - 130
1,2,3-Trichlorobenzene	ND		10.0	11.9		ug/L		119	60 - 140
1,2,3-Trichloropropane	ND F1		10.0	13.2	F1	ug/L		132	60 - 130
1,2,4-Trichlorobenzene	ND		10.0	11.1		ug/L		111	60 - 140
1,2,4-Trimethylbenzene	ND		10.0	10.6		ug/L		106	70 - 130
1,2-Dibromo-3-Chloropropane	ND		10.0	13.6		ug/L		136	48 - 140

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
 SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248319-A-1 MS

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,2-Dibromoethane (EDB)	ND		10.0	10.5		ug/L		105	70 - 131
1,2-Dichlorobenzene	ND		10.0	10.9		ug/L		109	70 - 130
1,2-Dichloroethane	ND		10.0	10.5		ug/L		105	56 - 146
1,2-Dichloropropane	ND		10.0	9.76		ug/L		98	69 - 130
1,3,5-Trimethylbenzene	ND		10.0	10.4		ug/L		104	70 - 130
1,3-Dichlorobenzene	ND		10.0	10.3		ug/L		103	70 - 130
1,3-Dichloropropane	ND		10.0	9.87		ug/L		99	70 - 130
1,4-Dichlorobenzene	ND		10.0	10.2		ug/L		102	70 - 130
2,2-Dichloropropane	ND		10.0	9.52		ug/L		95	69 - 138
2-Chlorotoluene	ND		10.0	9.79		ug/L		98	70 - 130
4-Chlorotoluene	ND		10.0	10.4		ug/L		104	70 - 130
Acetone	ND		50.0	50.8		ug/L		102	10 - 150
Benzene	ND		10.0	9.35		ug/L		93	66 - 130
Bromobenzene	ND		10.0	9.79		ug/L		98	70 - 130
Bromochloromethane	ND		10.0	11.1		ug/L		111	70 - 130
Bromodichloromethane	ND		10.0	10.2		ug/L		102	70 - 138
Bromoform	ND		10.0	11.1		ug/L		111	59 - 150
Bromomethane	ND		10.0	8.58		ug/L		86	62 - 131
Carbon tetrachloride	ND		10.0	10.1		ug/L		101	60 - 150
Chlorobenzene	ND		10.0	9.00		ug/L		90	70 - 130
Chloroethane	ND		10.0	8.23		ug/L		82	68 - 130
Chloroform	ND		10.0	9.91		ug/L		99	70 - 130
Chloromethane	ND		10.0	7.60		ug/L		76	39 - 144
cis-1,2-Dichloroethene	ND		10.0	9.69		ug/L		97	70 - 130
cis-1,3-Dichloropropene	ND		10.0	9.20		ug/L		92	70 - 133
Dibromochloromethane	ND		10.0	10.6		ug/L		106	70 - 148
Dibromomethane	ND		10.0	10.7		ug/L		107	70 - 130
Dichlorodifluoromethane	ND		10.0	7.18		ug/L		72	25 - 142
Ethylbenzene	ND		10.0	8.99		ug/L		90	70 - 130
Hexachlorobutadiene	ND		10.0	10.6		ug/L		106	10 - 150
Isopropylbenzene	ND		10.0	9.58		ug/L		96	70 - 132
m,p-Xylene	ND		10.0	9.15		ug/L		92	70 - 133
Methylene Chloride	ND		10.0	9.65		ug/L		96	52 - 130
Methyl-t-Butyl Ether (MTBE)	4.5		10.0	16.0		ug/L		116	70 - 130
Naphthalene	ND		10.0	12.5		ug/L		125	60 - 140
n-Butylbenzene	ND		10.0	10.7		ug/L		107	61 - 149
N-Propylbenzene	ND		10.0	10.1		ug/L		101	66 - 135
o-Xylene	ND		10.0	9.93		ug/L		99	70 - 133
p-Isopropyltoluene	ND		10.0	10.3		ug/L		103	70 - 130
sec-Butylbenzene	ND		10.0	10.5		ug/L		105	67 - 134
Styrene	ND		10.0	9.37		ug/L		94	29 - 150
tert-Butylbenzene	ND		10.0	10.0		ug/L		100	70 - 130
Tetrachloroethene	ND		10.0	8.82		ug/L		88	70 - 137
Toluene	ND		10.0	8.50		ug/L		85	70 - 130
trans-1,2-Dichloroethene	ND		10.0	9.13		ug/L		91	70 - 130
trans-1,3-Dichloropropene	ND		10.0	10.3		ug/L		103	70 - 138
Trichloroethene	ND		10.0	9.61		ug/L		93	70 - 130
Trichlorofluoromethane	ND		10.0	9.31		ug/L		93	60 - 150
Vinyl chloride	ND		10.0	8.11		ug/L		81	50 - 137

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	121		70 - 130
4-Bromofluorobenzene (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	108		76 - 132
Toluene-d8 (Surr)	90		80 - 128

Lab Sample ID: 440-248319-A-1 MSD

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec.	%Rec.		RPD	Limit
				Result	Qualifier				Limits	RPD		
1,1,1,2-Tetrachloroethane	ND		10.0	9.98		ug/L	100	60 - 149		5	20	
1,1,1-Trichloroethane	ND		10.0	9.03		ug/L	90	70 - 130		8	20	
1,1,2,2-Tetrachloroethane	ND		10.0	11.3		ug/L	113	63 - 130		5	30	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	8.63		ug/L	86	60 - 140		8	20	
1,1,2-Trichloroethane	ND		10.0	11.0		ug/L	110	70 - 130		7	25	
1,1-Dichloroethane	ND		10.0	9.03		ug/L	90	65 - 130		6	20	
1,1-Dichloroethene	ND		10.0	8.32		ug/L	83	70 - 130		5	20	
1,1-Dichloropropene	ND		10.0	8.45		ug/L	85	64 - 130		9	20	
1,2,3-Trichlorobenzene	ND		10.0	11.6		ug/L	116	60 - 140		3	20	
1,2,3-Trichloropropane	ND F1		10.0	12.8		ug/L	128	60 - 130		3	30	
1,2,4-Trichlorobenzene	ND		10.0	11.4		ug/L	114	60 - 140		2	20	
1,2,4-Trimethylbenzene	ND		10.0	10.4		ug/L	104	70 - 130		1	25	
1,2-Dibromo-3-Chloropropane	ND		10.0	12.7		ug/L	127	48 - 140		7	30	
1,2-Dibromoethane (EDB)	ND		10.0	10.9		ug/L	109	70 - 131		3	25	
1,2-Dichlorobenzene	ND		10.0	10.5		ug/L	105	70 - 130		3	20	
1,2-Dichloroethane	ND		10.0	10.2		ug/L	102	56 - 146		3	20	
1,2-Dichloropropane	ND		10.0	9.42		ug/L	94	69 - 130		4	20	
1,3,5-Trimethylbenzene	ND		10.0	9.97		ug/L	100	70 - 130		4	20	
1,3-Dichlorobenzene	ND		10.0	10.4		ug/L	104	70 - 130		0	20	
1,3-Dichloropropane	ND		10.0	10.4		ug/L	104	70 - 130		5	25	
1,4-Dichlorobenzene	ND		10.0	9.88		ug/L	99	70 - 130		3	20	
2,2-Dichloropropane	ND		10.0	8.76		ug/L	88	69 - 138		8	25	
2-Chlorotoluene	ND		10.0	9.75		ug/L	98	70 - 130		0	20	
4-Chlorotoluene	ND		10.0	10.2		ug/L	102	70 - 130		2	20	
Acetone	ND		50.0	44.9		ug/L	90	10 - 150		12	35	
Benzene	ND		10.0	8.76		ug/L	88	66 - 130		6	20	
Bromobenzene	ND		10.0	9.70		ug/L	97	70 - 130		1	20	
Bromochloromethane	ND		10.0	10.3		ug/L	103	70 - 130		7	25	
Bromodichloromethane	ND		10.0	9.82		ug/L	98	70 - 138		4	20	
Bromoform	ND		10.0	11.6		ug/L	116	59 - 150		5	25	
Bromomethane	ND		10.0	8.07		ug/L	81	62 - 131		6	25	
Carbon tetrachloride	ND		10.0	9.18		ug/L	92	60 - 150		9	25	
Chlorobenzene	ND		10.0	9.32		ug/L	93	70 - 130		3	20	
Chloroethane	ND		10.0	7.80		ug/L	78	68 - 130		5	25	
Chloroform	ND		10.0	9.41		ug/L	94	70 - 130		5	20	
Chloromethane	ND		10.0	7.12		ug/L	71	39 - 144		7	25	
cis-1,2-Dichloroethene	ND		10.0	9.20		ug/L	92	70 - 130		5	20	
cis-1,3-Dichloropropene	ND		10.0	9.85		ug/L	99	70 - 133		7	20	
Dibromochloromethane	ND		10.0	11.2		ug/L	112	70 - 148		6	25	
Dibromomethane	ND		10.0	10.5		ug/L	105	70 - 130		1	25	
Dichlorodifluoromethane	ND		10.0	6.66		ug/L	67	25 - 142		8	30	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-248319-A-1 MSD

Matrix: Water

Analysis Batch: 564140

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD	RPD Limit	
Ethylbenzene	ND		10.0	9.42		ug/L		94	70 - 130	5	20
Hexachlorobutadiene	ND		10.0	10.2		ug/L		102	10 - 150	3	20
Isopropylbenzene	ND		10.0	10.0		ug/L		100	70 - 132	4	20
m,p-Xylene	ND		10.0	9.61		ug/L		96	70 - 133	5	25
Methylene Chloride	ND		10.0	9.17		ug/L		92	52 - 130	5	20
Methyl-t-Butyl Ether (MTBE)	4.5		10.0	15.7		ug/L		112	70 - 130	2	25
Naphthalene	ND		10.0	12.3		ug/L		123	60 - 140	2	30
n-Butylbenzene	ND		10.0	10.4		ug/L		104	61 - 149	3	20
N-Propylbenzene	ND		10.0	9.88		ug/L		99	66 - 135	2	20
o-Xylene	ND		10.0	10.2		ug/L		102	70 - 133	2	20
p-Isopropyltoluene	ND		10.0	10.1		ug/L		101	70 - 130	2	20
sec-Butylbenzene	ND		10.0	10.2		ug/L		102	67 - 134	3	20
Styrene	ND		10.0	9.83		ug/L		98	29 - 150	5	35
tert-Butylbenzene	ND		10.0	9.93		ug/L		99	70 - 130	1	20
Tetrachloroethene	ND		10.0	9.37		ug/L		94	70 - 137	6	20
Toluene	ND		10.0	8.85		ug/L		89	70 - 130	4	20
trans-1,2-Dichloroethene	ND		10.0	8.86		ug/L		89	70 - 130	3	20
trans-1,3-Dichloropropene	ND		10.0	10.7		ug/L		107	70 - 138	3	25
Trichloroethene	ND		10.0	9.42		ug/L		91	70 - 130	2	20
Trichlorofluoromethane	ND		10.0	8.39		ug/L		84	60 - 150	10	25
Vinyl chloride	ND		10.0	7.61		ug/L		76	50 - 137	6	30

MSD MSD

Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	118		70 - 130
4-Bromofluorobenzene (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	107		76 - 132
Toluene-d8 (Surr)	96		80 - 128

Lab Sample ID: MB 440-565352/4

Matrix: Water

Analysis Batch: 565352

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl alcohol	ND		250	ug/L			08/26/19 07:54	1
Surrogate								
Surrogate								
1,2-Dichloroethane-d4 (Surr)	69	X	70 - 130			Prepared	08/26/19 07:54	1
4-Bromofluorobenzene (Surr)	96		80 - 120				08/26/19 07:54	1
Dibromofluoromethane (Surr)	94		76 - 132				08/26/19 07:54	1
Toluene-d8 (Surr)	106		80 - 128				08/26/19 07:54	1

Lab Sample ID: LCS 440-565352/1003

Matrix: Water

Analysis Batch: 565352

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	Limits
Isopropyl alcohol	250	211	J	ug/L		84	49 - 142

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-565352/1003

Matrix: Water

Analysis Batch: 565352

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	71				70 - 130
4-Bromofluorobenzene (Surr)	96				80 - 120
Dibromofluoromethane (Surr)	92				76 - 132
Toluene-d8 (Surr)	105				80 - 128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Lab Sample ID: 440-248662-A-3 MS

Matrix: Water

Analysis Batch: 565352

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Isopropyl alcohol	ND		250	257		ug/L		103	46 - 142

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	66	X	70 - 130
4-Bromofluorobenzene (Surr)	91		80 - 120
Dibromofluoromethane (Surr)	90		76 - 132
Toluene-d8 (Surr)	103		80 - 128

Lab Sample ID: 440-248662-A-3 MSD

Matrix: Water

Analysis Batch: 565352

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Isopropyl alcohol	ND		250	254		ug/L		101	46 - 142	1	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	66	X	70 - 130
4-Bromofluorobenzene (Surr)	92		80 - 120
Dibromofluoromethane (Surr)	89		76 - 132
Toluene-d8 (Surr)	106		80 - 128

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-563925/1-A

Matrix: Water

Analysis Batch: 564233

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
1,2-Dichlorobenzene	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
1,2-Diphenylhydrazine(as Azobenzene)	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1
1,3-Dichlorobenzene	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
1,4-Dichlorobenzene	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
2,4,5-Trichlorophenol	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1
2,4,6-Trichlorophenol	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1
2,4-Dichlorophenol	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
2,4-Dimethylphenol	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 563925

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-563925/1-A

Matrix: Water

Analysis Batch: 564233

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 563925

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrophenol	ND		40	ug/L	08/18/19 12:41	08/20/19 10:55		1
2,4-Dinitrotoluene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
2,6-Dinitrotoluene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
2-Chloronaphthalene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
2-Chlorophenol	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
2-Methylnaphthalene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
2-Methylphenol	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
2-Nitroaniline	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
2-Nitrophenol	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
3,3'-Dichlorobenzidine	ND		40	ug/L	08/18/19 12:41	08/20/19 10:55		1
3-Methylphenol + 4-Methylphenol	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
3-Nitroaniline	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
4,6-Dinitro-2-methylphenol	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
4-Bromophenyl phenyl ether	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
4-Chloro-3-methylphenol	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
4-Chloroaniline	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
4-Chlorophenyl phenyl ether	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
4-Nitroaniline	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
4-Nitrophenol	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Acenaphthene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Acenaphthylene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Aniline	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Anthracene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzidine	ND		40	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzo[a]anthracene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzo[a]pyrene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzo[b]fluoranthene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzo[g,h,i]perylene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzo[k]fluoranthene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzoic acid	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Benzyl alcohol	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
bis (2-chloroisopropyl) ether	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Bis(2-chloroethoxy)methane	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Bis(2-chloroethyl)ether	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Bis(2-ethylhexyl) phthalate	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Butyl benzyl phthalate	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Chrysene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Dibenz(a,h)anthracene	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Dibenzofuran	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Diethyl phthalate	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Dimethyl phthalate	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Di-n-butyl phthalate	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Di-n-octyl phthalate	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Fluoranthene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Fluorene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Hexachlorobenzene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Hexachlorobutadiene	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1
Hexachlorocyclopentadiene	ND		20	ug/L	08/18/19 12:41	08/20/19 10:55		1
Hexachloroethane	ND		10	ug/L	08/18/19 12:41	08/20/19 10:55		1

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-563925/1-A

Matrix: Water

Analysis Batch: 564233

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 563925

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1
Isophorone	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
Naphthalene	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
Nitrobenzene	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1
N-Nitrosodimethylamine	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1
N-Nitrosodi-n-propylamine	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
N-Nitrosodiphenylamine	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
Pentachlorophenol	ND		20	ug/L		08/18/19 12:41	08/20/19 10:55	1
Phenanthrene	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
Phenol	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1
Pyrene	ND		10	ug/L		08/18/19 12:41	08/20/19 10:55	1

MB MB

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	82		40 - 120	08/18/19 12:41	08/20/19 10:55	1
2-Fluorobiphenyl	70		50 - 120	08/18/19 12:41	08/20/19 10:55	1
2-Fluorophenol (Surr)	57		30 - 120	08/18/19 12:41	08/20/19 10:55	1
Nitrobenzene-d5 (Surr)	62		45 - 120	08/18/19 12:41	08/20/19 10:55	1
Phenol-d6 (Surr)	58		35 - 120	08/18/19 12:41	08/20/19 10:55	1
Terphenyl-d14 (Surr)	97		10 - 150	08/18/19 12:41	08/20/19 10:55	1

Lab Sample ID: LCS 440-563925/2-A

Matrix: Water

Analysis Batch: 564233

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 563925

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec.
1,2,4-Trichlorobenzene	100	76.3		ug/L		76	25 - 84	
1,2-Dichlorobenzene	100	67.6		ug/L		68	24 - 85	
1,2-Diphenylhydrazine(as Azobenzene)	100	73.7		ug/L		74	44 - 113	
1,3-Dichlorobenzene	100	64.4		ug/L		64	20 - 80	
1,4-Dichlorobenzene	100	64.6		ug/L		65	22 - 81	
2,4,5-Trichlorophenol	100	84.2		ug/L		84	24 - 121	
2,4,6-Trichlorophenol	100	87.5		ug/L		87	20 - 121	
2,4-Dichlorophenol	100	87.7		ug/L		88	23 - 113	
2,4-Dimethylphenol	100	79.2		ug/L		79	39 - 94	
2,4-Dinitrophenol	200	218		ug/L		109	23 - 134	
2,4-Dinitrotoluene	100	91.6		ug/L		92	54 - 115	
2,6-Dinitrotoluene	100	93.2		ug/L		93	50 - 115	
2-Chloronaphthalene	100	81.7		ug/L		82	34 - 102	
2-Chlorophenol	100	74.2		ug/L		74	20 - 106	
2-Methylnaphthalene	100	77.6		ug/L		78	34 - 98	
2-Methylphenol	100	71.5		ug/L		72	36 - 103	
2-Nitroaniline	100	77.6		ug/L		78	48 - 111	
2-Nitrophenol	100	84.1		ug/L		84	20 - 117	
3,3'-Dichlorobenzidine	100	29.6	J	ug/L		30	22 - 97	
3-Methylphenol + 4-Methylphenol	100	74.5		ug/L		74	35 - 106	
3-Nitroaniline	100	68.6		ug/L		69	51 - 116	
4,6-Dinitro-2-methylphenol	200	191		ug/L		95	28 - 139	
4-Bromophenyl phenyl ether	100	89.0		ug/L		89	42 - 113	

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
 Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
 SDG: Whittier, CA

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-563925/2-A

Matrix: Water

Analysis Batch: 564233

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 563925

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	Limits
4-Chloro-3-methylphenol	100	83.2		ug/L	83	44 - 110		
4-Chloroaniline	100	37.6	*	ug/L	38	42 - 109		
4-Chlorophenyl phenyl ether	100	84.9		ug/L	85	38 - 115		
4-Nitroaniline	100	73.1		ug/L	73	50 - 116		
4-Nitrophenol	200	164		ug/L	82	26 - 132		
Acenaphthene	100	78.9		ug/L	79	37 - 107		
Acenaphthylene	100	77.6		ug/L	78	39 - 107		
Aniline	100	50.2		ug/L	50	27 - 115		
Anthracene	100	85.2		ug/L	85	42 - 120		
Benzidine	100	22.4	J	ug/L	22	5 - 150		
Benzo[a]anthracene	100	91.2		ug/L	91	42 - 115		
Benzo[a]pyrene	100	79.5		ug/L	80	41 - 117		
Benzo[b]fluoranthene	100	78.2		ug/L	78	36 - 113		
Benzo[g,h,i]perylene	100	91.1		ug/L	91	37 - 115		
Benzo[k]fluoranthene	100	81.4		ug/L	81	42 - 122		
Benzoic acid	100	105		ug/L	105	15 - 121		
Benzyl alcohol	100	71.4		ug/L	71	39 - 106		
bis (2-chloroisopropyl) ether	100	62.2		ug/L	62	38 - 104		
Bis(2-chloroethoxy)methane	100	76.7		ug/L	77	47 - 104		
Bis(2-chloroethyl)ether	100	72.3		ug/L	72	42 - 99		
Bis(2-ethylhexyl) phthalate	100	82.2		ug/L	82	43 - 124		
Butyl benzyl phthalate	100	88.1		ug/L	88	44 - 122		
Chrysene	100	89.8		ug/L	90	42 - 118		
Dibenz(a,h)anthracene	100	86.8		ug/L	87	40 - 114		
Dibenzofuran	100	82.2		ug/L	82	37 - 113		
Diethyl phthalate	100	82.4		ug/L	82	51 - 120		
Dimethyl phthalate	100	84.9		ug/L	85	49 - 113		
Di-n-butyl phthalate	100	85.5		ug/L	85	47 - 125		
Di-n-octyl phthalate	100	88.6		ug/L	89	42 - 125		
Fluoranthene	100	90.7		ug/L	91	44 - 119		
Fluorene	100	80.2		ug/L	80	39 - 116		
Hexachlorobenzene	100	91.4		ug/L	91	43 - 112		
Hexachlorobutadiene	100	70.8		ug/L	71	14 - 77		
Hexachlorocyclopentadiene	100	43.9		ug/L	44	10 - 77		
Hexachloroethane	100	57.3		ug/L	57	13 - 75		
Indeno[1,2,3-cd]pyrene	100	90.8		ug/L	91	35 - 116		
Isophorone	100	78.0		ug/L	78	48 - 107		
Naphthalene	100	77.6		ug/L	78	33 - 95		
Nitrobenzene	100	76.2		ug/L	76	42 - 99		
N-Nitrosodimethylamine	100	67.3		ug/L	67	35 - 96		
N-Nitrosodi-n-propylamine	100	71.7		ug/L	72	44 - 111		
N-Nitrosodiphenylamine	100	76.2		ug/L	76	46 - 116		
Pentachlorophenol	200	182		ug/L	91	26 - 136		
Phenanthrene	100	85.0		ug/L	85	43 - 120		
Phenol	100	80.8		ug/L	81	25 - 99		
Pyrene	100	91.2		ug/L	91	43 - 119		

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-563925/2-A

Matrix: Water

Analysis Batch: 564233

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 563925

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol (Surr)			103		40 - 120
2-Fluorobiphenyl			80		50 - 120
2-Fluorophenol (Surr)			71		30 - 120
Nitrobenzene-d5 (Surr)			77		45 - 120
Phenol-d6 (Surr)			72		35 - 120
Terphenyl-d14 (Surr)			104		10 - 150

Lab Sample ID: LCSD 440-563925/3-A

Matrix: Water

Analysis Batch: 564233

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 563925

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.	RPD	RPD Limit
1,2,4-Trichlorobenzene	100	68.9		ug/L		69	25 - 84	10	35
1,2-Dichlorobenzene	100	60.6		ug/L		61	24 - 85	11	35
1,2-Diphenylhydrazine(as Azobenzene)	100	70.4		ug/L		70	44 - 113	5	35
1,3-Dichlorobenzene	100	58.2		ug/L		58	20 - 80	10	35
1,4-Dichlorobenzene	100	58.7		ug/L		59	22 - 81	10	35
2,4,5-Trichlorophenol	100	78.0		ug/L		78	24 - 121	8	35
2,4,6-Trichlorophenol	100	82.1		ug/L		82	20 - 121	6	35
2,4-Dichlorophenol	100	85.0		ug/L		85	23 - 113	3	35
2,4-Dimethylphenol	100	76.5		ug/L		76	39 - 94	4	35
2,4-Dinitrophenol	200	213		ug/L		106	23 - 134	2	35
2,4-Dinitrotoluene	100	87.9		ug/L		88	54 - 115	4	35
2,6-Dinitrotoluene	100	85.2		ug/L		85	50 - 115	9	35
2-Chloronaphthalene	100	76.2		ug/L		76	34 - 102	7	35
2-Chlorophenol	100	72.7		ug/L		73	20 - 106	2	35
2-Methylnaphthalene	100	73.3		ug/L		73	34 - 98	6	35
2-Methylphenol	100	69.5		ug/L		69	36 - 103	3	35
2-Nitroaniline	100	72.3		ug/L		72	48 - 111	7	35
2-Nitrophenol	100	81.7		ug/L		82	20 - 117	3	35
3,3'-Dichlorobenzidine	100	77.7 *		ug/L		78	22 - 97	90	35
3-Methylphenol + 4-Methylphenol	100	74.7		ug/L		75	35 - 106	0	35
3-Nitroaniline	100	74.9		ug/L		75	51 - 116	9	35
4,6-Dinitro-2-methylphenol	200	183		ug/L		92	28 - 139	4	35
4-Bromophenyl phenyl ether	100	82.0		ug/L		82	42 - 113	8	35
4-Chloro-3-methylphenol	100	78.8		ug/L		79	44 - 110	5	35
4-Chloroaniline	100	64.7 *		ug/L		65	42 - 109	53	35
4-Chlorophenyl phenyl ether	100	79.6		ug/L		80	38 - 115	6	35
4-Nitroaniline	100	73.7		ug/L		74	50 - 116	1	35
4-Nitrophenol	200	159		ug/L		80	26 - 132	3	35
Acenaphthene	100	73.4		ug/L		73	37 - 107	7	35
Acenaphthylene	100	73.9		ug/L		74	39 - 107	5	35
Aniline	100	61.8		ug/L		62	27 - 115	21	35
Anthracene	100	82.4		ug/L		82	42 - 120	3	35
Benzidine	100	ND		ug/L		19	5 - 150	18	35
Benzo[a]anthracene	100	86.9		ug/L		87	42 - 115	5	35
Benzo[a]pyrene	100	77.9		ug/L		78	41 - 117	2	35
Benzo[b]fluoranthene	100	76.7		ug/L		77	36 - 113	2	35

Eurofins TestAmerica, Irvine

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-563925/3-A

Matrix: Water

Analysis Batch: 564233

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 563925

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[g,h,i]perylene	100	85.4		ug/L		85	37 - 115	6	35
Benzo[k]fluoranthene	100	76.5		ug/L		77	42 - 122	6	35
Benzoic acid	100	98.9		ug/L		99	15 - 121	6	35
Benzyl alcohol	100	66.3		ug/L		66	39 - 106	7	35
bis (2-chloroisopropyl) ether	100	59.6		ug/L		60	38 - 104	4	35
Bis(2-chloroethoxy)methane	100	73.7		ug/L		74	47 - 104	4	35
Bis(2-chloroethyl)ether	100	70.2		ug/L		70	42 - 99	3	35
Bis(2-ethylhexyl) phthalate	100	78.7		ug/L		79	43 - 124	4	35
Butyl benzyl phthalate	100	82.5		ug/L		83	44 - 122	6	35
Chrysene	100	85.4		ug/L		85	42 - 118	5	35
Dibenz(a,h)anthracene	100	83.6		ug/L		84	40 - 114	4	35
Dibenzofuran	100	77.4		ug/L		77	37 - 113	6	35
Diethyl phthalate	100	77.9		ug/L		78	51 - 120	6	35
Dimethyl phthalate	100	82.1		ug/L		82	49 - 113	3	35
Di-n-butyl phthalate	100	82.5		ug/L		83	47 - 125	4	35
Di-n-octyl phthalate	100	83.6		ug/L		84	42 - 125	6	35
Fluoranthene	100	89.0		ug/L		89	44 - 119	2	35
Fluorene	100	76.9		ug/L		77	39 - 116	4	35
Hexachlorobenzene	100	87.7		ug/L		88	43 - 112	4	35
Hexachlorobutadiene	100	62.0		ug/L		62	14 - 77	13	35
Hexachlorocyclopentadiene	100	65.1 *		ug/L		65	10 - 77	39	35
Hexachloroethane	100	50.0		ug/L		50	13 - 75	14	35
Indeno[1,2,3-cd]pyrene	100	86.6		ug/L		87	35 - 116	5	35
Isophorone	100	74.2		ug/L		74	48 - 107	5	35
Naphthalene	100	71.9		ug/L		72	33 - 95	8	35
Nitrobenzene	100	72.2		ug/L		72	42 - 99	5	35
N-Nitrosodimethylamine	100	65.4		ug/L		65	35 - 96	3	35
N-Nitrosodi-n-propylamine	100	70.5		ug/L		71	44 - 111	2	35
N-Nitrosodiphenylamine	100	79.3		ug/L		79	46 - 116	4	35
Pentachlorophenol	200	166		ug/L		83	26 - 136	9	35
Phenanthrene	100	80.9		ug/L		81	43 - 120	5	35
Phenol	100	80.0		ug/L		80	25 - 99	1	35
Pyrene	100	87.3		ug/L		87	43 - 119	4	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol (Surr)	92		40 - 120
2-Fluorobiphenyl	72		50 - 120
2-Fluorophenol (Surr)	68		30 - 120
Nitrobenzene-d5 (Surr)	72		45 - 120
Phenol-d6 (Surr)	71		35 - 120
Terphenyl-d14 (Surr)	87		10 - 150

QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: 8270C SIM - 1,4 Dioxane by SIM

Lab Sample ID: MB 440-563923/1-A

Matrix: Water

Analysis Batch: 564123

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 563923

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.50	ug/L		08/18/19 12:18	08/19/19 16:08	1
Surrogate	MB %Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	62		27 - 120			08/18/19 12:18	08/19/19 16:08	1

Lab Sample ID: LCS 440-563923/3-A

Matrix: Water

Analysis Batch: 564123

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 563923

Analyte		Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec.	
1,4-Dioxane		2.00	1.52		ug/L		76	36 - 120
Surrogate	LCS %Recovery	LCS Qualifier	Limits					
1,4-Dioxane-d8 (Surr)	74		27 - 120					

Lab Sample ID: 440-248220-E-1-A MS

Matrix: Water

Analysis Batch: 564123

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 563923

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec.	
1,4-Dioxane	ND		1.95	1.62		ug/L		83	10 - 150
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	76		27 - 120						

Lab Sample ID: 440-248220-E-1-B MSD

Matrix: Water

Analysis Batch: 564123

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 563923

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec.	RPD
1,4-Dioxane	ND		1.99	1.54		ug/L		77	10 - 150
Surrogate	MSD %Recovery	MSD Qualifier	Limits						
1,4-Dioxane-d8 (Surr)	70		27 - 120						

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 440-564674/1

Matrix: Water

Analysis Batch: 564674

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	ND		1.0	mg/L			08/21/19 16:32	1

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QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 440-564674/2

Matrix: Water

Analysis Batch: 564674

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD
Total Suspended Solids	1000	994		mg/L	99		85 - 115	

Lab Sample ID: 440-248181-A-1 DU

Matrix: Water

Analysis Batch: 564674

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Total Suspended Solids	13		13.0		mg/L		0	10

Method: SM 4500 H+ B - pH

Lab Sample ID: 440-248075-A-1 DU

Matrix: Water

Analysis Batch: 564053

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
pH	8.3		8.3		SU		0.1	2

Method: SM 4500 S2 D - Sulfide, Total

Lab Sample ID: MB 440-564127/1-A

Matrix: Water

Analysis Batch: 564157

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 564127

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide, Dissolved	ND		0.050	mg/L		08/19/19 15:50	08/19/19 16:48	1

Lab Sample ID: LCS 440-564127/2-A

Matrix: Water

Analysis Batch: 564157

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 564127

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	RPD
Sulfide, Dissolved	0.500	0.536		mg/L	107		80 - 120	

Lab Sample ID: LCSD 440-564127/3-A

Matrix: Water

Analysis Batch: 564157

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved
Prep Batch: 564127

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD
Sulfide, Dissolved	0.500	0.519		mg/L	104		80 - 120	3 20

Lab Sample ID: 440-248179-2 MS

Matrix: Water

Analysis Batch: 564157

Client Sample ID: Grab_20190816
Prep Type: Dissolved
Prep Batch: 564127

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide, Dissolved	ND		0.500	0.504		mg/L	101		70 - 130

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QC Sample Results

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Method: SM 4500 S2 D - Sulfide, Total (Continued)

Lab Sample ID: 440-248179-2 MSD

Matrix: Water

Analysis Batch: 564157

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide, Dissolved	ND		0.500	0.488		mg/L		98	70 - 130	3	30

Method: SM 5220D - COD

Lab Sample ID: MB 440-564644/3

Matrix: Water

Analysis Batch: 564644

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		20	mg/L			08/21/19 14:35	1

Lab Sample ID: LCS 440-564644/4

Matrix: Water

Analysis Batch: 564644

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	200	200		mg/L		100	90 - 110

Lab Sample ID: 440-247701-J-1 MS

Matrix: Water

Analysis Batch: 564644

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	ND		200	192		mg/L		96	70 - 120

Lab Sample ID: 440-247701-J-1 MSD

Matrix: Water

Analysis Batch: 564644

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	ND		200	192		mg/L		96	70 - 120	0	15

Client Sample ID: Grab_20190816

Prep Type: Dissolved

Prep Batch: 564127

Client Sample ID: Method Blank

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

GC/MS VOA

Analysis Batch: 563964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	8260B	
MB 440-563964/4	Method Blank	Total/NA	Water	8260B	
LCS 440-563964/26	Lab Control Sample	Total/NA	Water	8260B	
440-248179-2 MS	Grab_20190816	Total/NA	Water	8260B	
440-248179-2 MSD	Grab_20190816	Total/NA	Water	8260B	

Analysis Batch: 564140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	8260B	
MB 440-564140/4	Method Blank	Total/NA	Water	8260B	
LCS 440-564140/1003	Lab Control Sample	Total/NA	Water	8260B	
LCS 440-564140/5	Lab Control Sample	Total/NA	Water	8260B	
440-248319-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
440-248319-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 565352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2 - RA	Grab_20190816	Total/NA	Water	8260B	
MB 440-565352/4	Method Blank	Total/NA	Water	8260B	
LCS 440-565352/1003	Lab Control Sample	Total/NA	Water	8260B	
440-248662-A-3 MS	Matrix Spike	Total/NA	Water	8260B	
440-248662-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 563923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	3520C	
MB 440-563923/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-563923/3-A	Lab Control Sample	Total/NA	Water	3520C	
440-248220-E-1-A MS	Matrix Spike	Total/NA	Water	3520C	
440-248220-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

Prep Batch: 563925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	3520C	
MB 440-563925/1-A	Method Blank	Total/NA	Water	3520C	
LCS 440-563925/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 440-563925/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 564123

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	8270C SIM	
MB 440-563923/1-A	Method Blank	Total/NA	Water	8270C SIM	
LCS 440-563923/3-A	Lab Control Sample	Total/NA	Water	8270C SIM	
440-248220-E-1-A MS	Matrix Spike	Total/NA	Water	8270C SIM	
440-248220-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	8270C SIM	

Analysis Batch: 564233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-563925/1-A	Method Blank	Total/NA	Water	8270C	563925

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QC Association Summary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

GC/MS Semi VOA (Continued)

Analysis Batch: 564233 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-563925/2-A	Lab Control Sample	Total/NA	Water	8270C	563925
LCSD 440-563925/3-A	Lab Control Sample Dup	Total/NA	Water	8270C	563925

Analysis Batch: 564438

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	8270C	563925

General Chemistry

Analysis Batch: 564053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	SM 4500 H+ B	
440-248075-A-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Prep Batch: 564127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Dissolved	Water	SM 4500 S2 B	
MB 440-564127/1-A	Method Blank	Dissolved	Water	SM 4500 S2 B	
LCS 440-564127/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 B	
LCSD 440-564127/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 B	
440-248179-2 MS	Grab_20190816	Dissolved	Water	SM 4500 S2 B	
440-248179-2 MSD	Grab_20190816	Dissolved	Water	SM 4500 S2 B	

Analysis Batch: 564157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Dissolved	Water	SM 4500 S2 D	564127
MB 440-564127/1-A	Method Blank	Dissolved	Water	SM 4500 S2 D	564127
LCS 440-564127/2-A	Lab Control Sample	Dissolved	Water	SM 4500 S2 D	564127
LCSD 440-564127/3-A	Lab Control Sample Dup	Dissolved	Water	SM 4500 S2 D	564127
440-248179-2 MS	Grab_20190816	Dissolved	Water	SM 4500 S2 D	564127
440-248179-2 MSD	Grab_20190816	Dissolved	Water	SM 4500 S2 D	564127

Analysis Batch: 564644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-1	Composite_20190816	Total/NA	Water	SM 5220D	
MB 440-564644/3	Method Blank	Total/NA	Water	SM 5220D	
LCS 440-564644/4	Lab Control Sample	Total/NA	Water	SM 5220D	
440-247701-J-1 MS	Matrix Spike	Total/NA	Water	SM 5220D	
440-247701-J-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5220D	

Analysis Batch: 564674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-1	Composite_20190816	Total/NA	Water	SM 2540D	
MB 440-564674/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 440-564674/2	Lab Control Sample	Total/NA	Water	SM 2540D	
440-248181-A-1 DU	Duplicate	Total/NA	Water	SM 2540D	

Field Service / Mobile Lab

Analysis Batch: 563942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-248179-2	Grab_20190816	Total/NA	Water	Field Sampling	

Eurofins TestAmerica, Irvine

Definitions/Glossary

Client: Jacob & Hefner Associates P.C.
Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1
SDG: Whittier, CA

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation

These commonly used abbreviations may or may not be present in this report.

□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Accreditation/Certification Summary

Client: Jacob & Hefner Associates P.C.

Project/Site: Omega Chemical - ISCO

Job ID: 440-248179-1

SDG: Whittier, CA

Laboratory: Eurofins TestAmerica, Irvine

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
California	State Program	CA ELAP 2706	06-30-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Water	1,1,2-Trichloro-1,2,2-trifluoroethane
8260B		Water	m,p-Xylene
8260B		Water	Total Volatile Organic Compounds
8270C	3520C	Water	2-Methylphenol
8270C	3520C	Water	3-Methylphenol + 4-Methylphenol
8270C	3520C	Water	4-Chloroaniline
8270C	3520C	Water	Benzidine
8270C SIM	3520C	Water	1,4-Dioxane
Field Sampling		Water	Field pH

Chain of Custody Record

Verz.: 01/16/2019

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Login Sample Receipt Checklist

Client: Jacob & Hefner Associates P.C.

Job Number: 440-248179-1

SDG Number: Whittier, CA

Login Number: 248179

List Source: Eurofins TestAmerica, Irvine

List Number: 1

Creator: Soderblom, Tim

Question	Answer	Comment	
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True		6
The cooler's custody seal, if present, is intact.	N/A	Not present	7
Sample custody seals, if present, are intact.	N/A	Not Present	8
The cooler or samples do not appear to have been compromised or tampered with.	True		9
Samples were received on ice.	True		10
Cooler Temperature is acceptable.	True		11
Cooler Temperature is recorded.	True		12
COC is present.	True		13
COC is filled out in ink and legible.	True		14
COC is filled out with all pertinent information.	True		15
Is the Field Sampler's name present on COC?	True		
There are no discrepancies between the containers received and the COC.	True		
Samples are received within Holding Time (excluding tests with immediate HTs)	True		
Sample containers have legible labels.	True		
Containers are not broken or leaking.	True		
Sample collection date/times are provided.	True		
Appropriate sample containers are used.	True		
Sample bottles are completely filled.	True		
Sample Preservation Verified.	N/A		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True		
Multiphasic samples are not present.	True		
Samples do not require splitting or compositing.	True		
Residual Chlorine Checked.	N/A		

ATTACHMENT E

PSVP Piezometric and Water Quality Data

Attachment E, Table E-1
Piezometric Monitoring Data
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Third Quarter 2019

Well No.	Top of Casing Elevation (feet MSL)	Screen Interval (feet MSL)	Date	Depth To Water (feet btoc)	Groundwater Elevation (feet MSL)
EW-1	198.96	114.94 - 129.94	8/15/2019	85.20	113.76
EW-2	197.87	113.77 - 128.77	8/15/2019	84.27	113.60
EW-3	196.78	114.59 - 129.59	8/15/2019	82.49	114.29
EW-4	195.79	112.73 - 127.73	8/15/2019	81.06	114.73
EW-5	194.19	111.96 - 126.96	8/15/2019	81.32	112.87
PZ-1	200.26	112.65 - 132.65	8/15/2019	86.29	113.97
PZ-2	201.48	118.02 - 138.02	8/15/2019	Dry	Dry
PZ-3	203.72	114.40 - 134.40	8/15/2019	Dry	Dry
PZ-4	196.26	106.66 - 126.66	8/15/2019	70.43	125.83
OW1A	212.53	132.47 - 147.47	8/16/2019	Dry	Dry
OW1B	207.22	87.42 - 97.42	8/15/2019	94.20	113.02
OW2	202.33	123.23 - 143.23	8/15/2019	Dry	Dry
OW3A	198.58	116.13 - 136.13	8/15/2019	79.77	118.81
OW3B	197.38	75.79 - 85.79	8/16/2019	94.95	102.43
OW7	214.29	124.69 - 144.69	8/16/2019	Dry	Dry
OW8A	200.66	121.33 - 140.93	8/16/2019	75.66	125.00
OW8B	200.84	75.39 - 85.39	8/20/2019	98.30	102.54
OW9	198.07	108.42 - 128.42	8/16/2019	85.85	112.22
OW10	195.54	106.46 - 126.46	8/16/2019	77.12	118.42
OW12	208.42	108.97 - 128.97	8/15/2019	91.42	117.00

Notes:

Elevation data per California Coordinate System NADV88

btoc = below top of casing

Dry = No water detected, water detected below the screen interval, or water detected at or near total depth of well

MSL = mean sea level

Attachment E, Table E-2
PSVP Groundwater Analytical Summary
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Third Quarter 2019

Well ID / Screen Interval ¹	Sample Date	Sample Type	PCE	TCE	1,4DIOX	1,1,1-TCA	1,1-DCE	1,2-DCA	Freon 113	Freon 11	Freon 12
EW-1 (72 - 87)	8/15/2019	ORIG	250	26 J-	14 J-	1.0 U	10	1.5 J-	61	13	1.0 UJ
EW-2 (72 - 87)	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS
EW-3 (70 - 85)	8/15/2019	ORIG	13	1.8 J-	0.67 J-	1.0 U	7.7	1.0 U	6.1	3.3	1.0 U
EW-4 (71 - 86)	8/15/2019	ORIG	3.4	0.44 J-	0.66 J-	1.0 U	2	1.0 U	1.3 J	0.79 J	1.0 U
EW-5 (70 - 85)	8/15/2019	ORIG	9.9	1.5 J-	0.15 J-	1.0 U	11	1.0 U	42	25	1.0 U
OW1A (62.5 - 77.5)	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
OW1B (110 - 120)	8/16/2019	ORIG	4.5	1.0 U	0.82 J-	1.0 U	1.0 U	1.0 U	7.2	3	1.0 U
OW2 (60 - 80)	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
OW3A (63 - 83)	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS	Dry - NS
OW3B (112 - 122)	8/16/2019	ORIG	8.9	1.0 U	0.50 UJ	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
	8/16/2019	DUP	10	1.0 U	0.49 UJ	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
OW7 (70.9 - 90.9)	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
OW8A (60.4 - 80)	8/20/2019	ORIG	0.70 J+	1.0 U	0.11 J,N	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
OW8B (116 - 126)	8/20/2019	ORIG	25 J+	1.0 U	0.11 J,N	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U
OW9 (70 - 90)	8/20/2019	ORIG	4200 J+	220 J+	480 J-	10 U	280 J+	94 J+	230 J+	100 J+	10 U
OW10 (69.5 - 89.5)	8/20/2019	ORIG	22 J+	1.6 J+	0.16 J-	1.0 U	16	1.0 U	7.1 J+	3.3	1.0 U
OW12 (80 - 100)	8/16/2019	ORIG	2500	260	5.0 J-	74	85	10 U	1600	48	10 U

Notes:

1. The screen interval units are feet below top of casing.

PCE = Tetrachloroethene; TCE = Trichloroethene; TCA = Trichloroethane; DCE = Dichloroethene;

ORIG = primary sample

All results are in micrograms per liter (ug/L)

Freon 113 = 1,1,2-Trichloro-1,2,2-trifluoroethane; Freon 11 = Trichlorofluoromethane;

DUP = duplicate sample

U = not detected above reporting limit listed

Freon 12 = Dichlorodifluoromethane; DCA = Dichloroethane; 1,4DIOX = 1,4-dioxane

UJ = analyte was not detected. The reported quantitation limit is

Dry = No water detected, water detected below the screen interval, or water detected at or near total depth of well

approximate and may be inaccurate or imprecise.

Dry - NS = insufficient water to sample

J = results are qualified as estimated

J- = result is an estimated quantity, but the result may be biased low

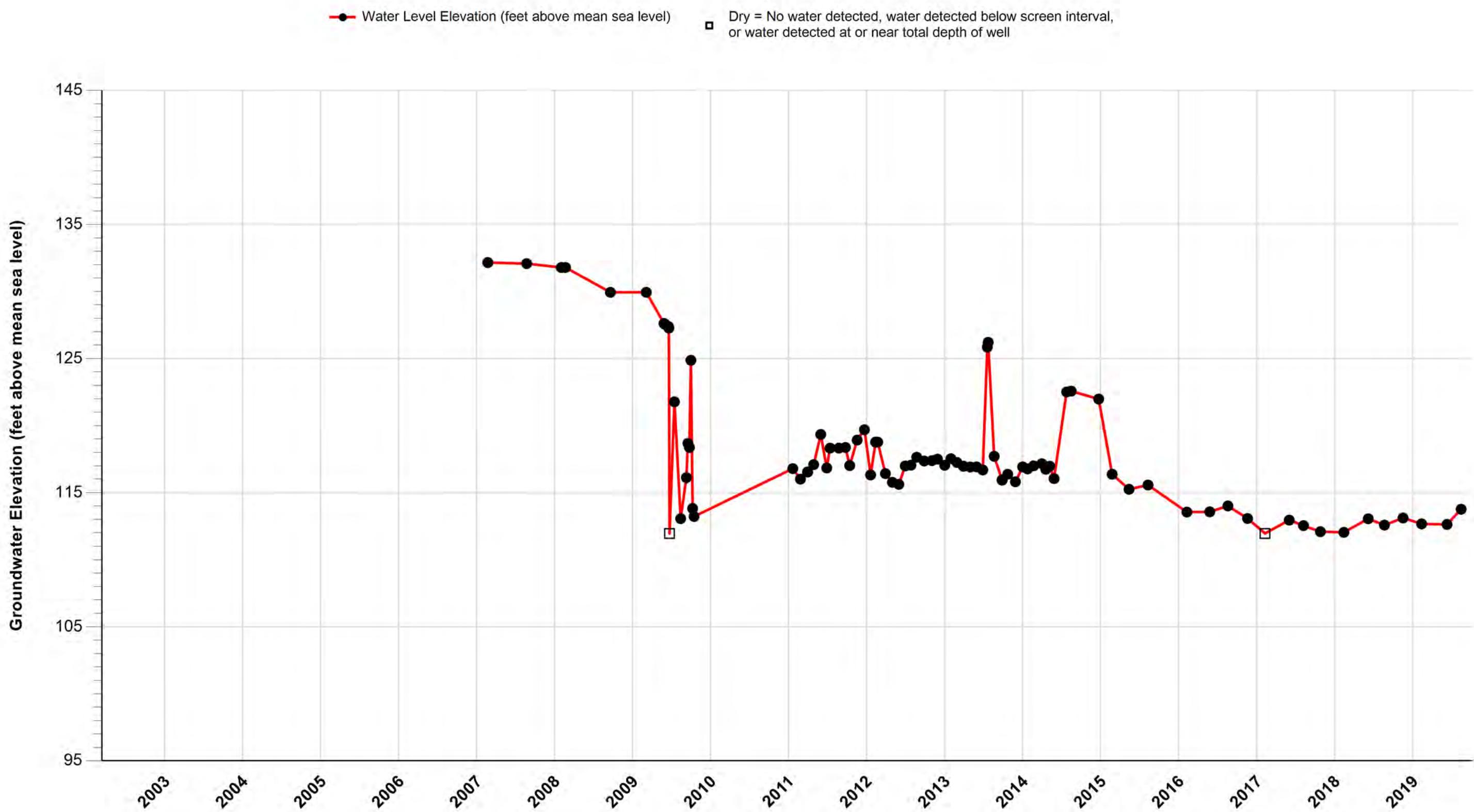
J+ = result is an estimated quantity, but the result may be biased high

J,N = quantitatively estimated and presumptively present

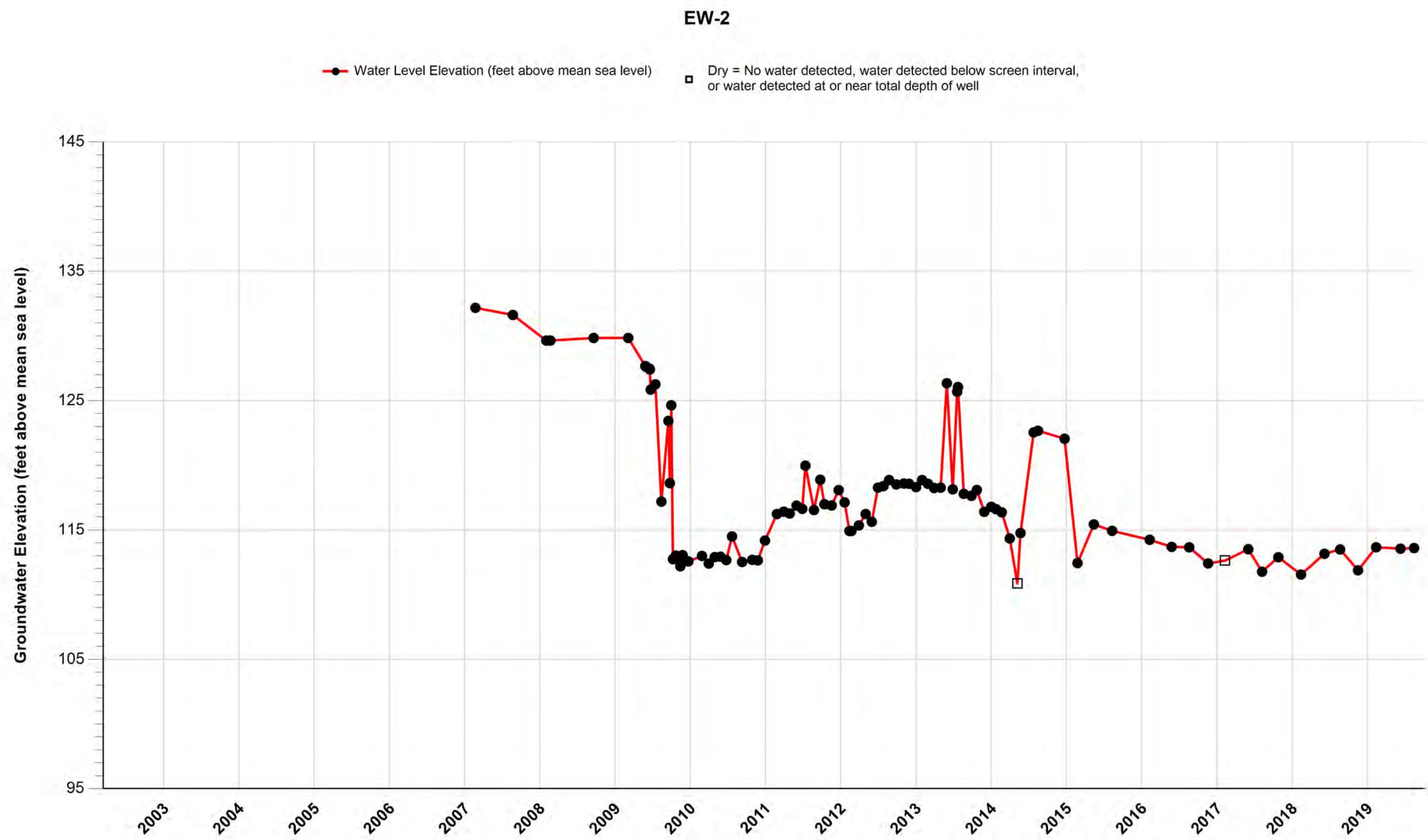
See data validation report in Attachment C.

Attachment E, Figure E-1
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data

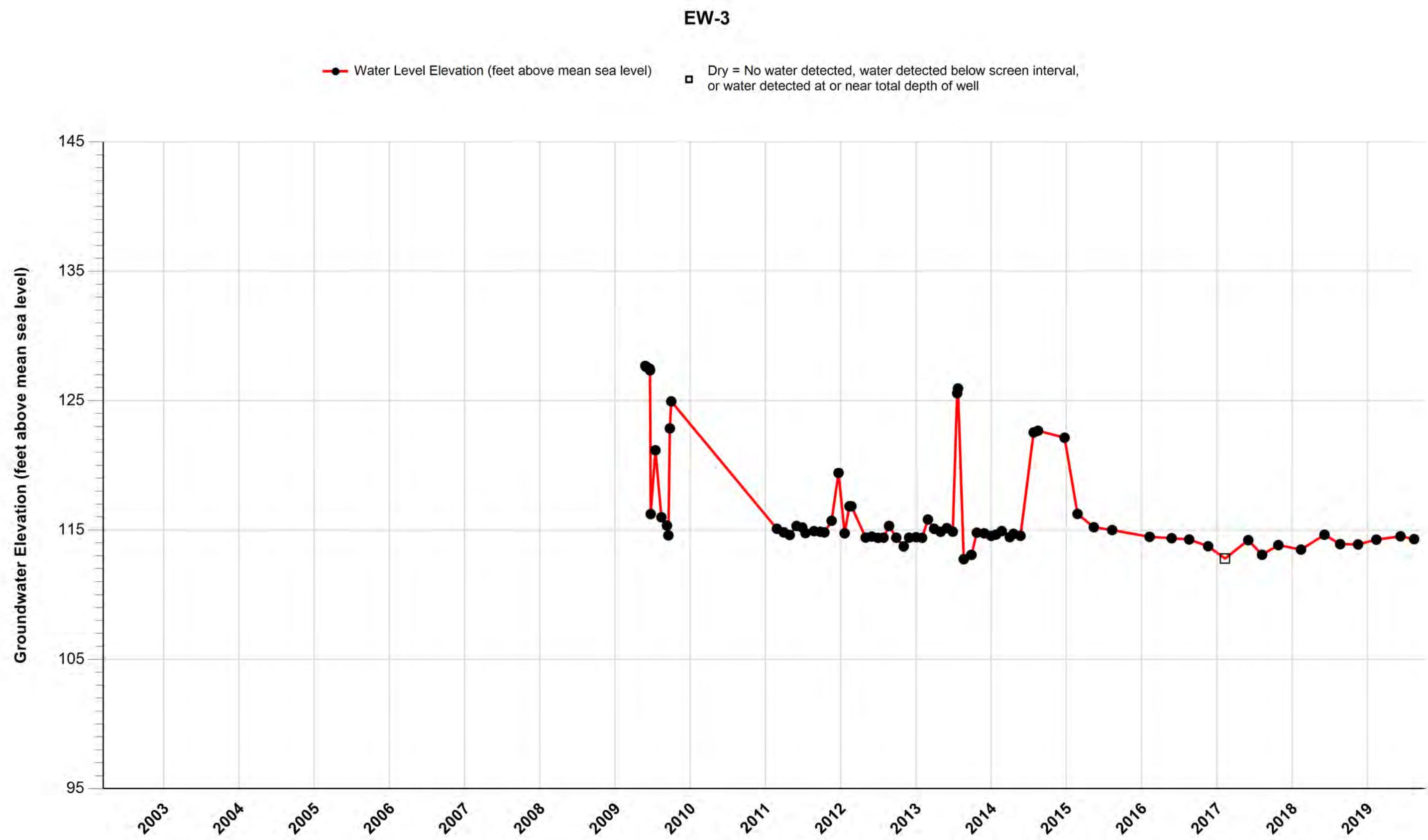
EW-1



Attachment E, Figure E-2
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data

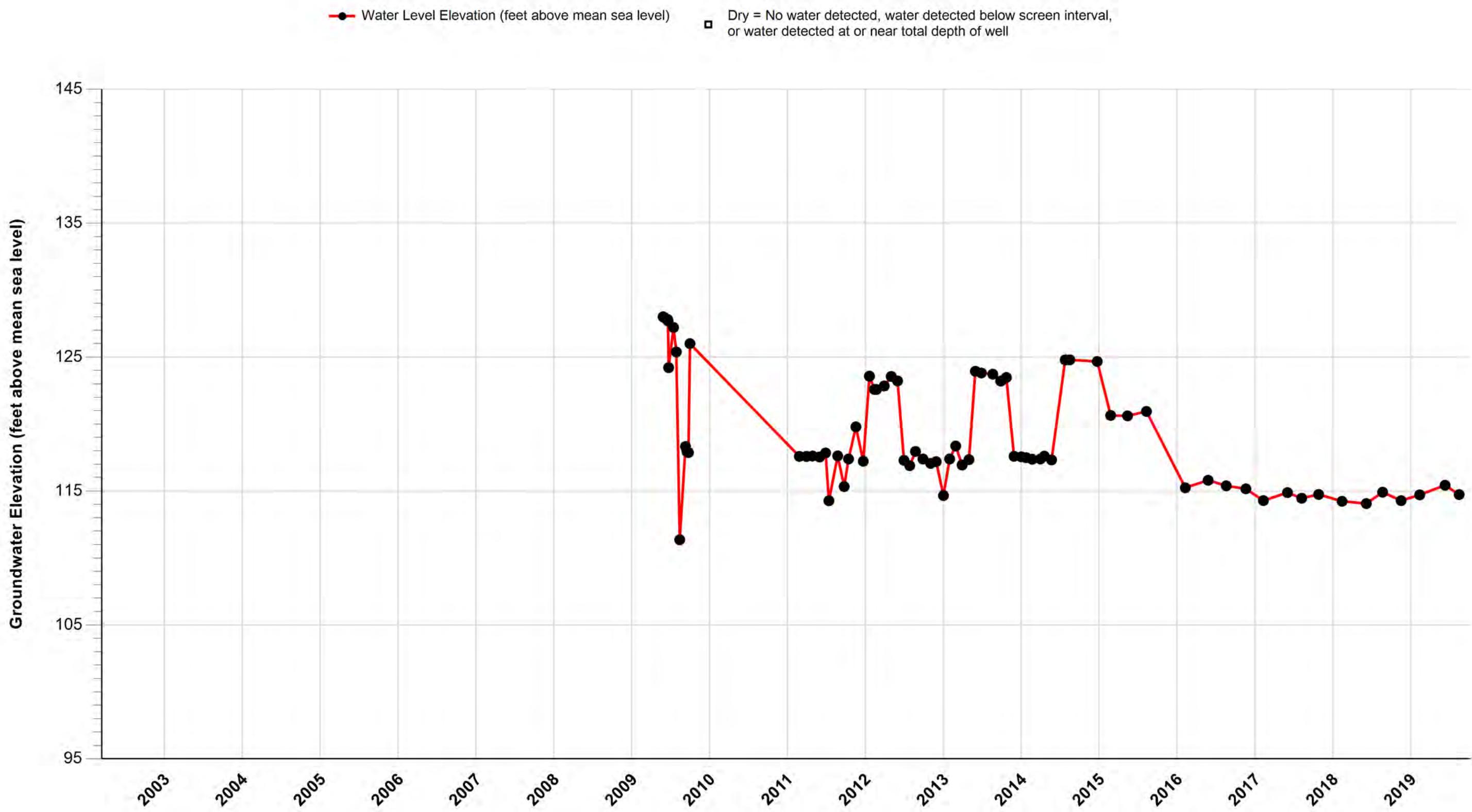


Attachment E, Figure E-3
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data

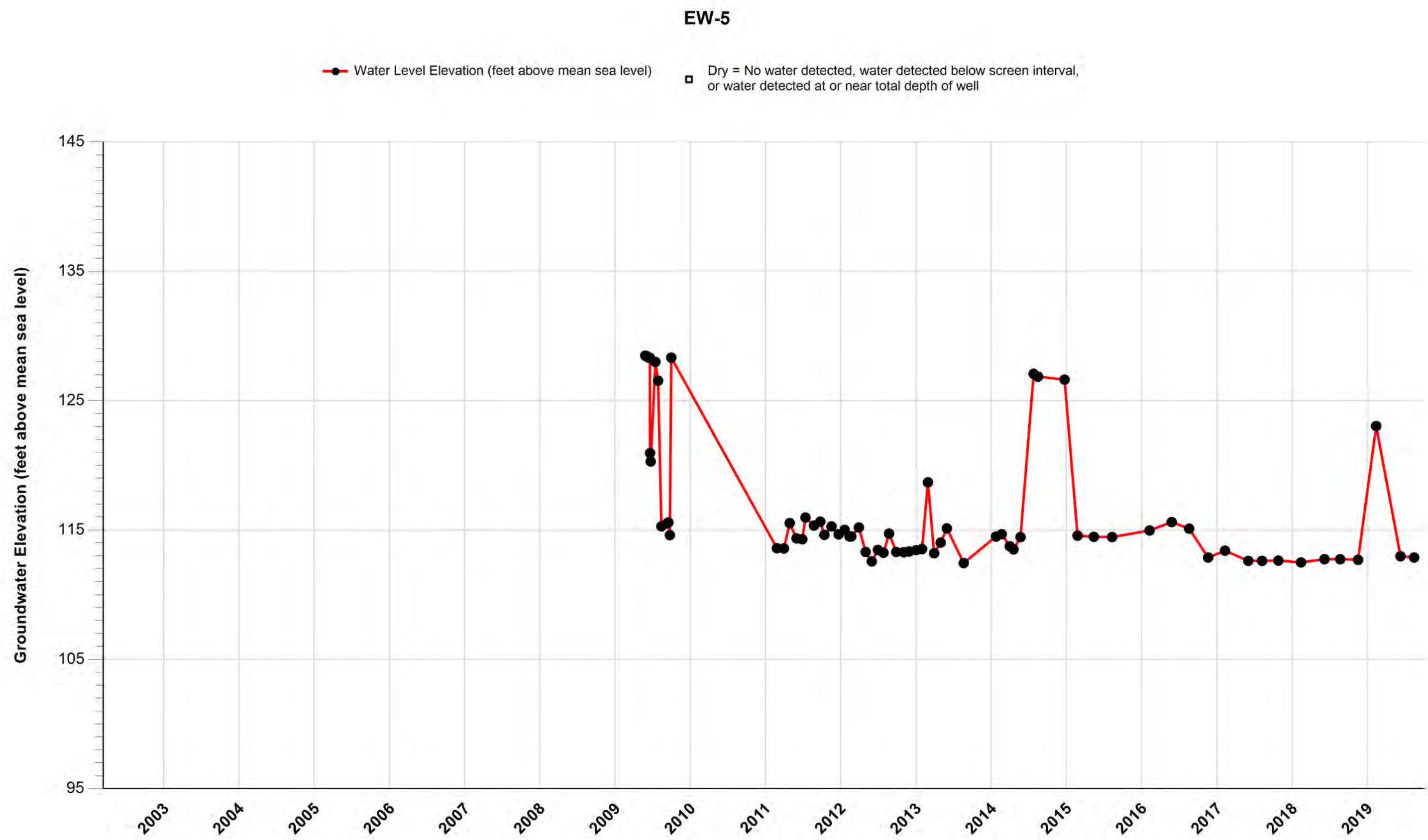


Attachment E, Figure E-4
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data

EW-4

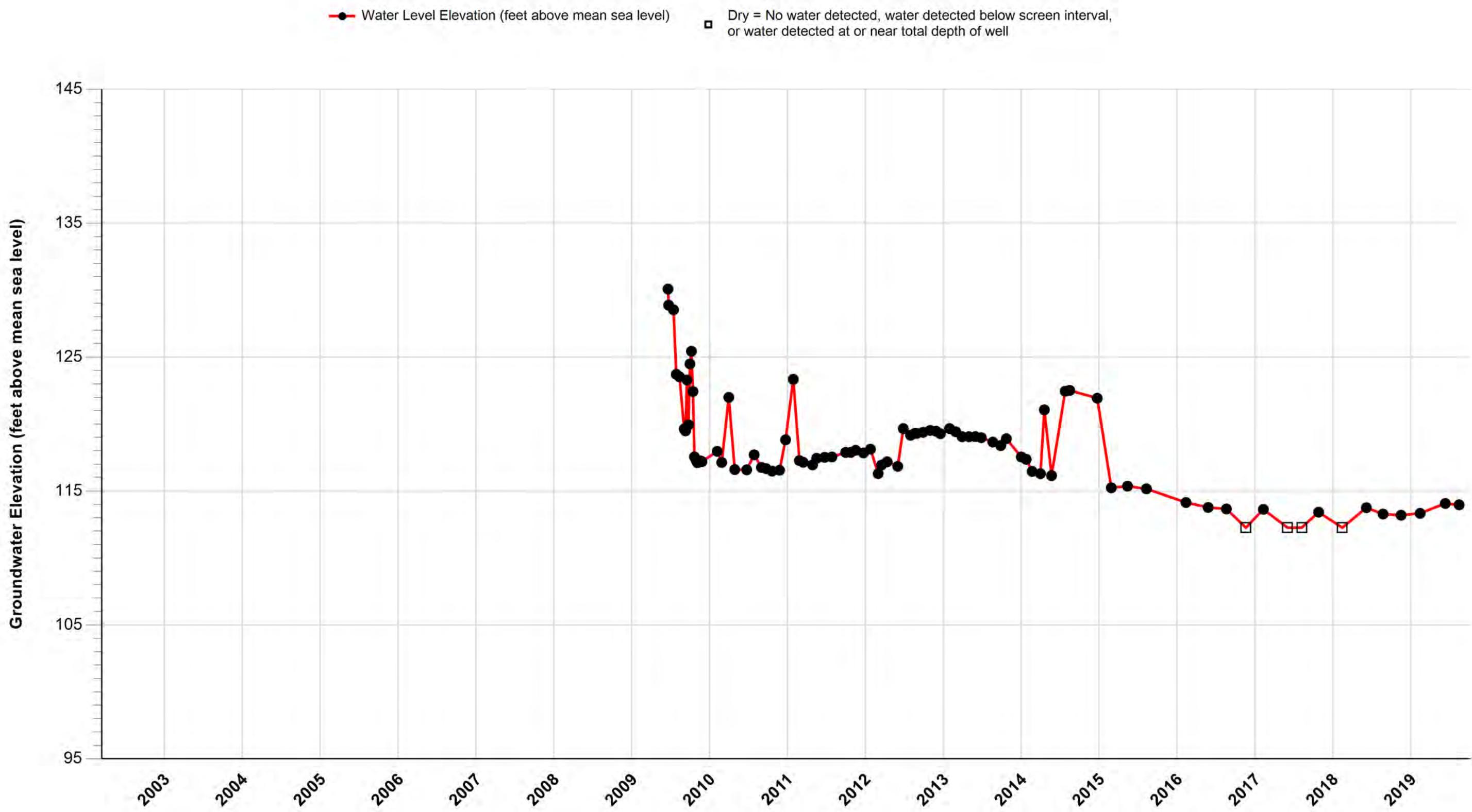


Attachment E, Figure E-5
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



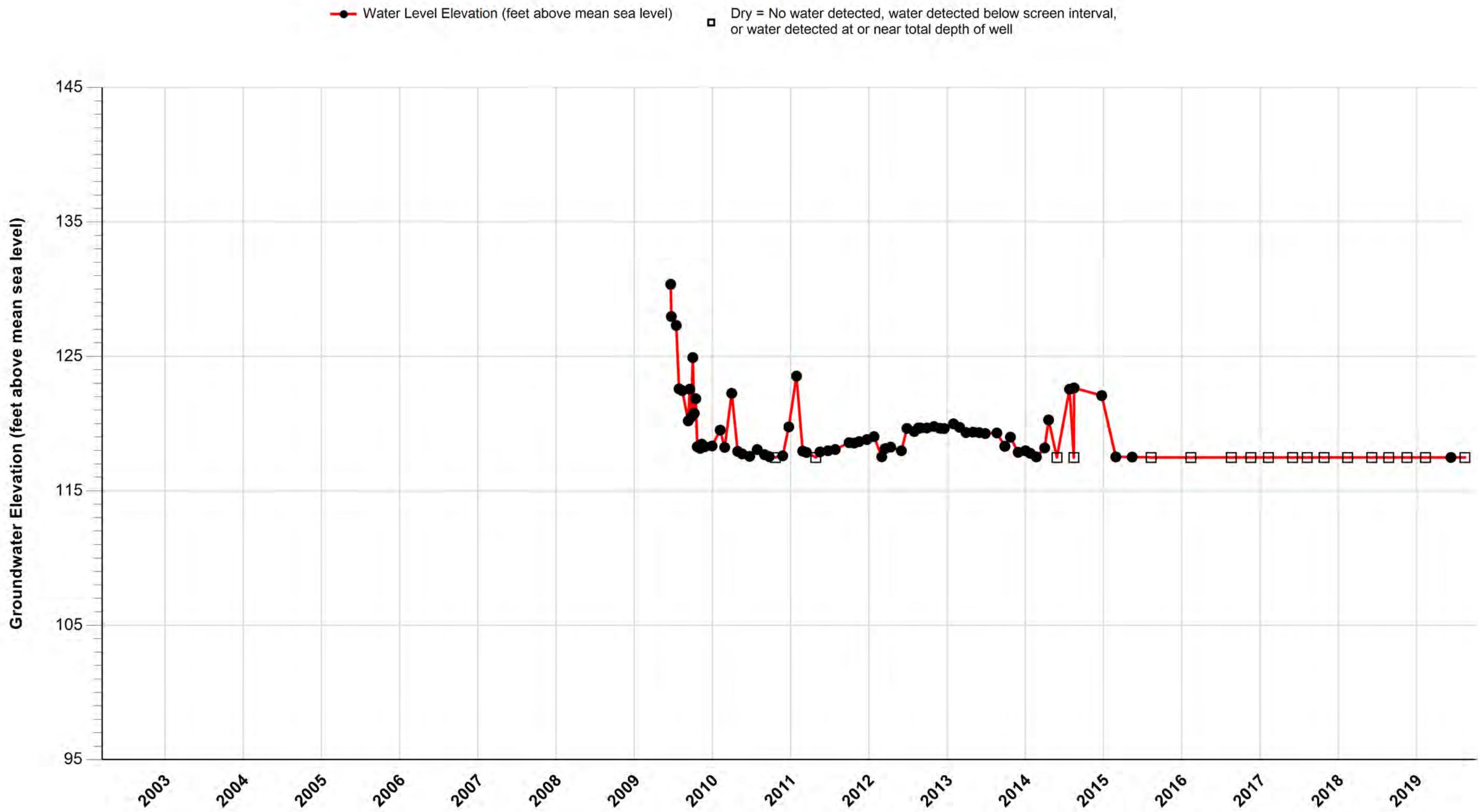
Attachment E, Figure E-6
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data

PZ-1



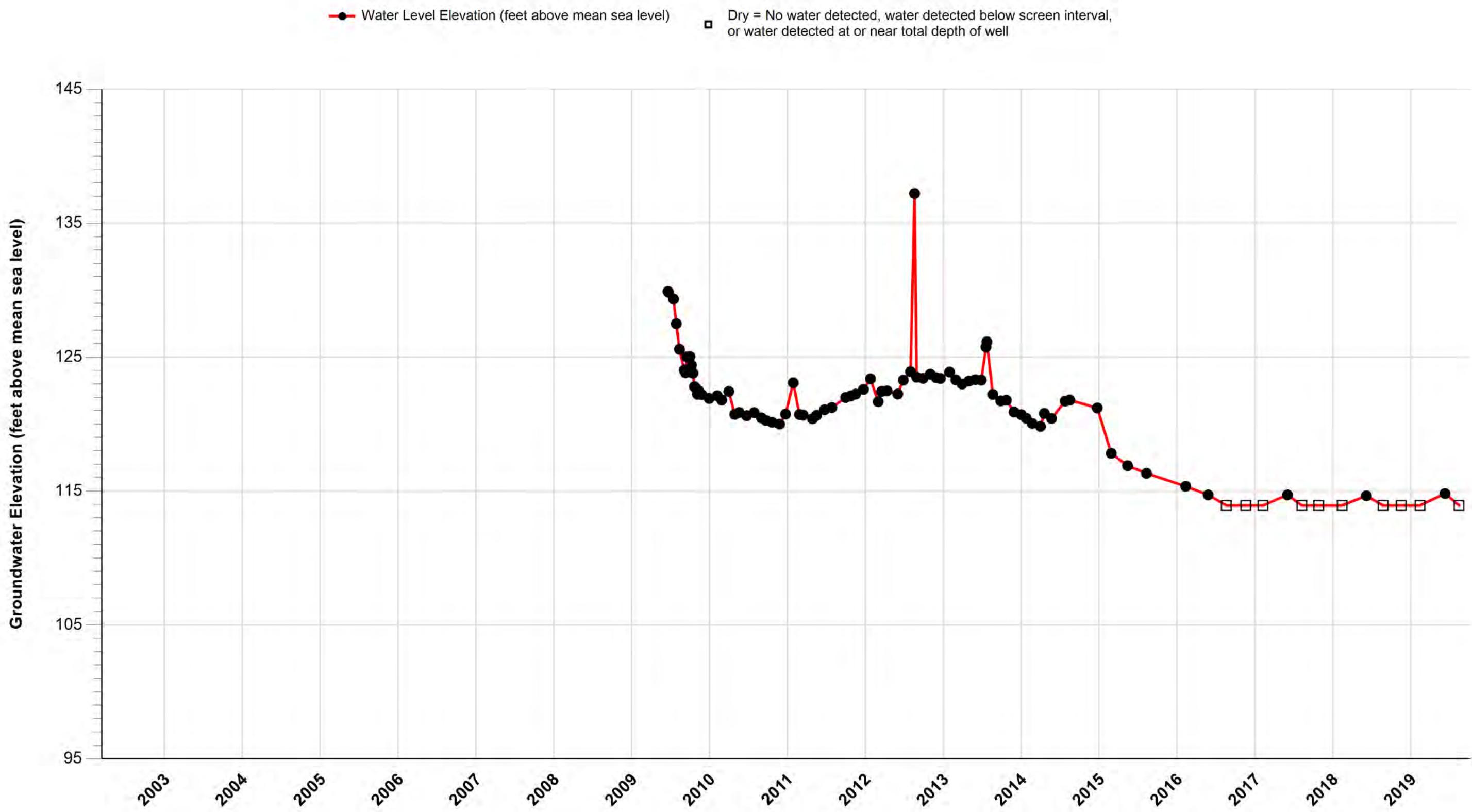
Attachment E, Figure E-7
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data

PZ-2



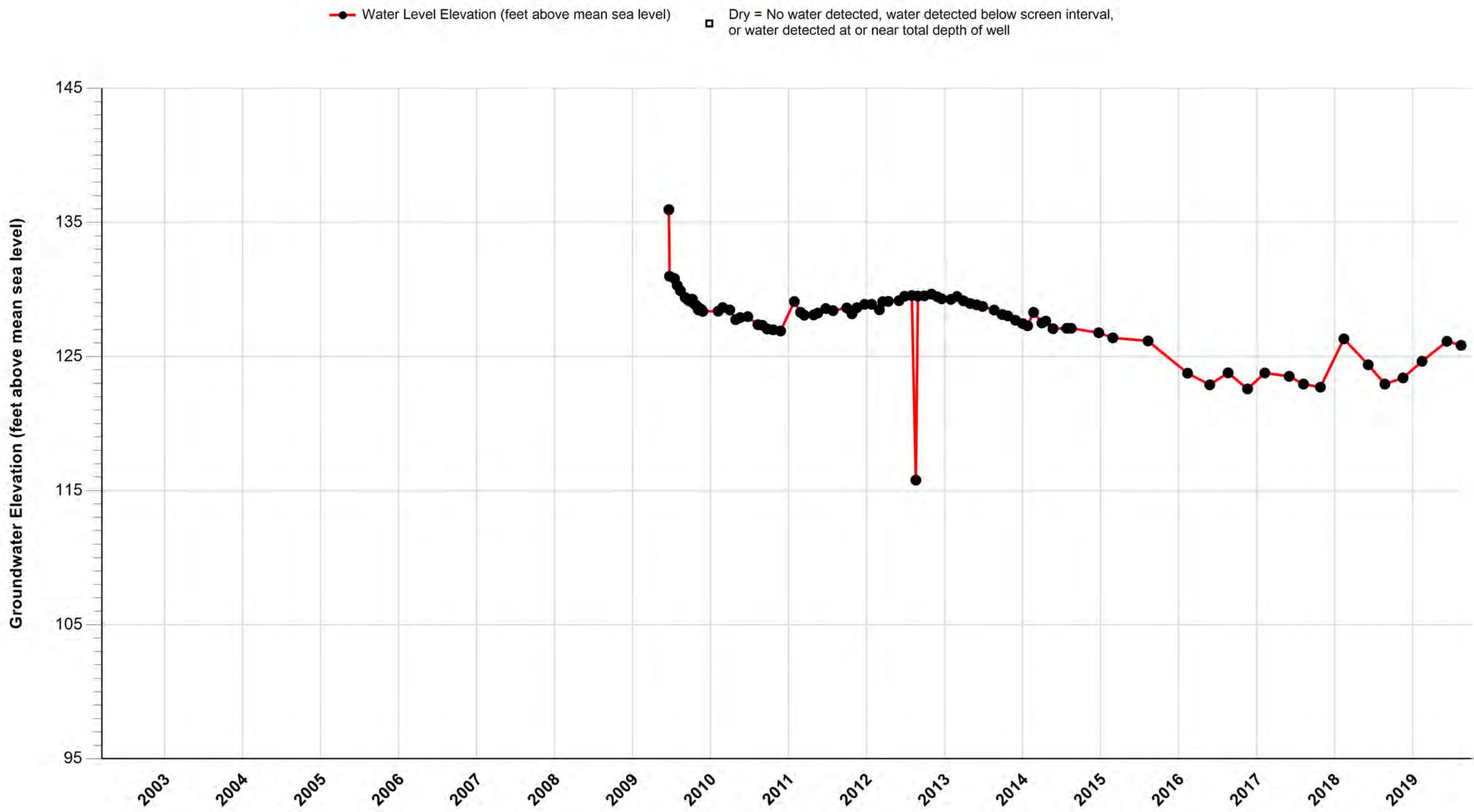
Attachment E, Figure E-8
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data

PZ-3

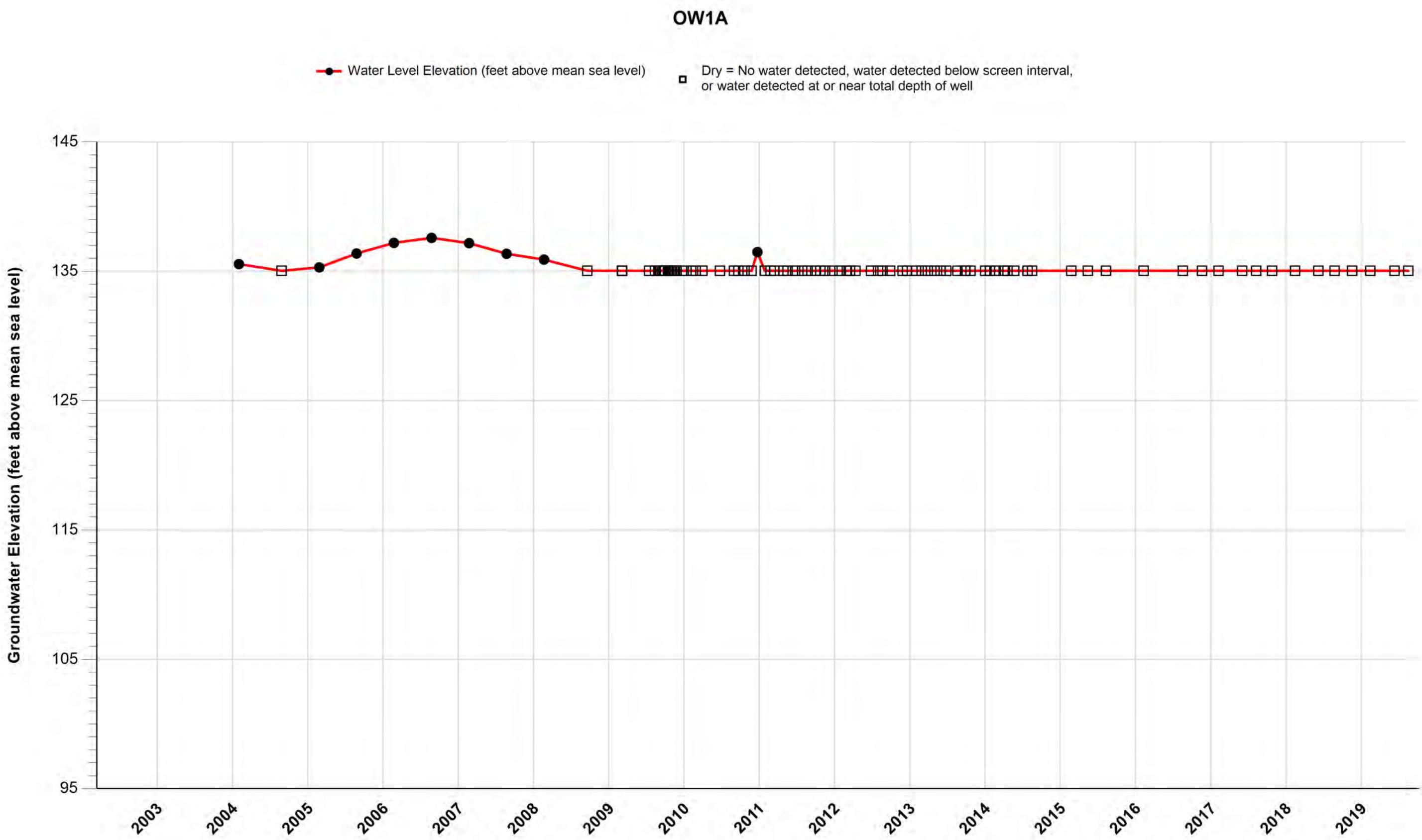


Attachment E, Figure E-9
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data

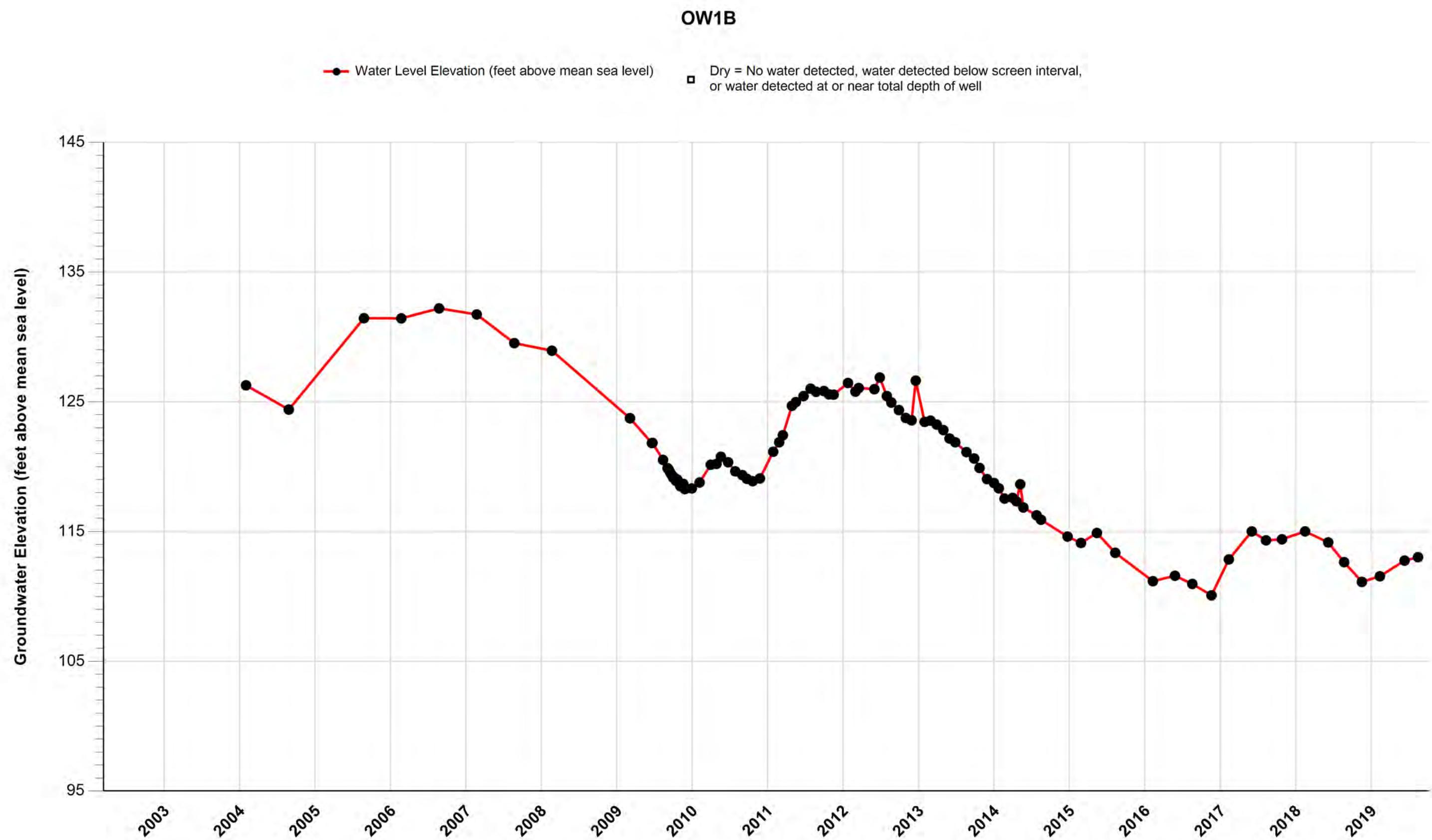
PZ-4



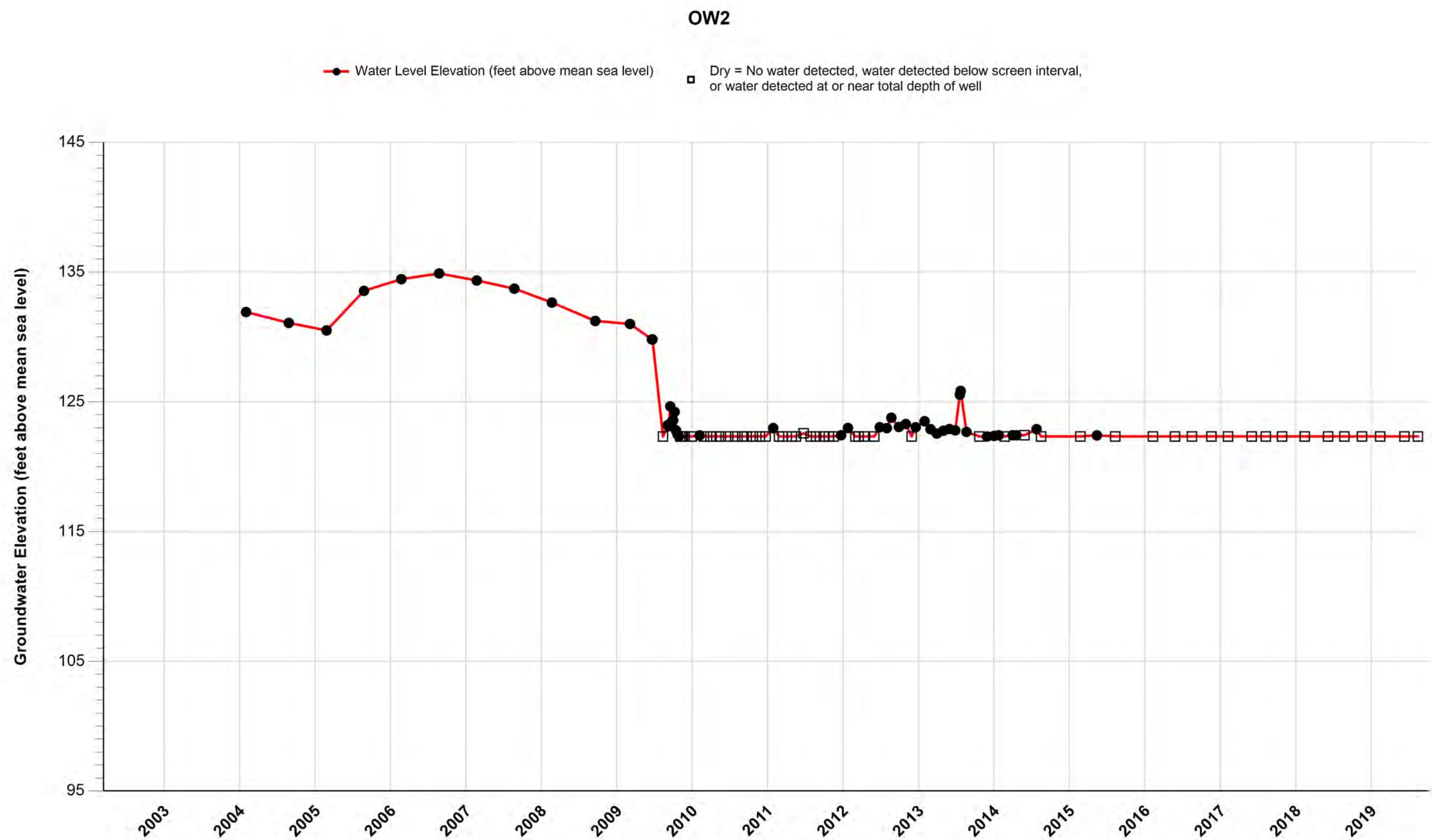
Attachment E, Figure E-10
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



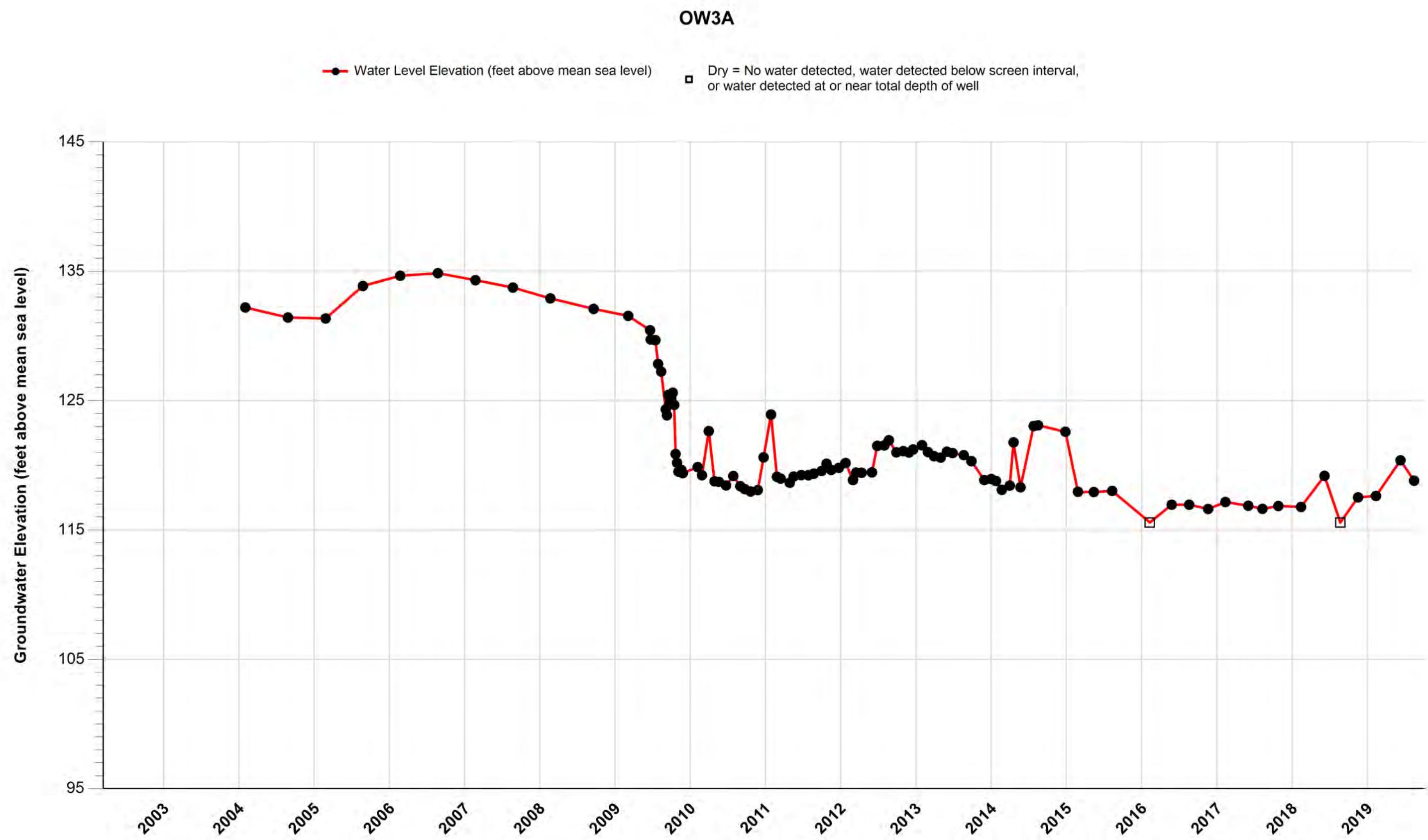
Attachment E, Figure E-11
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



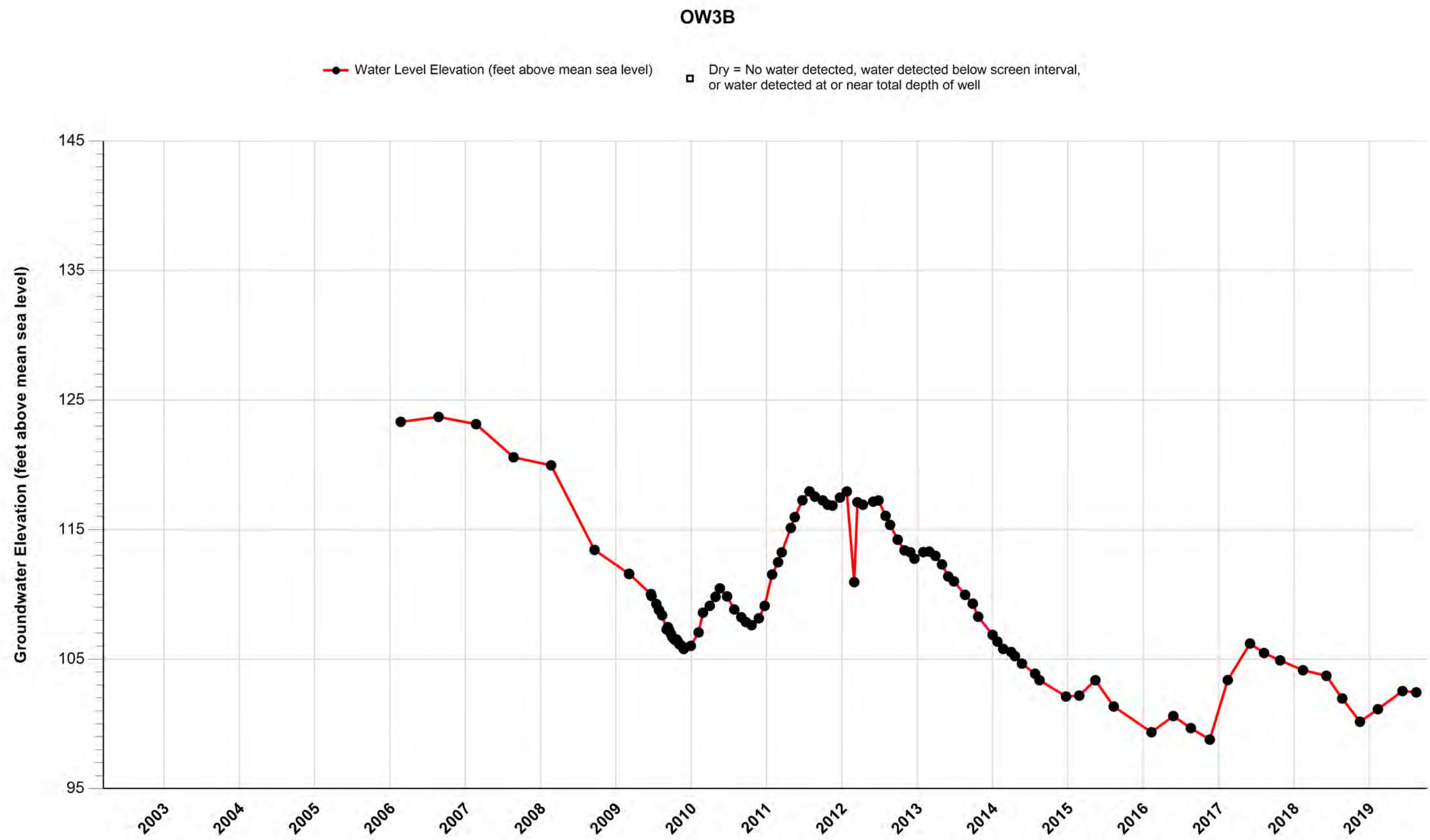
Attachment E, Figure E-12
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



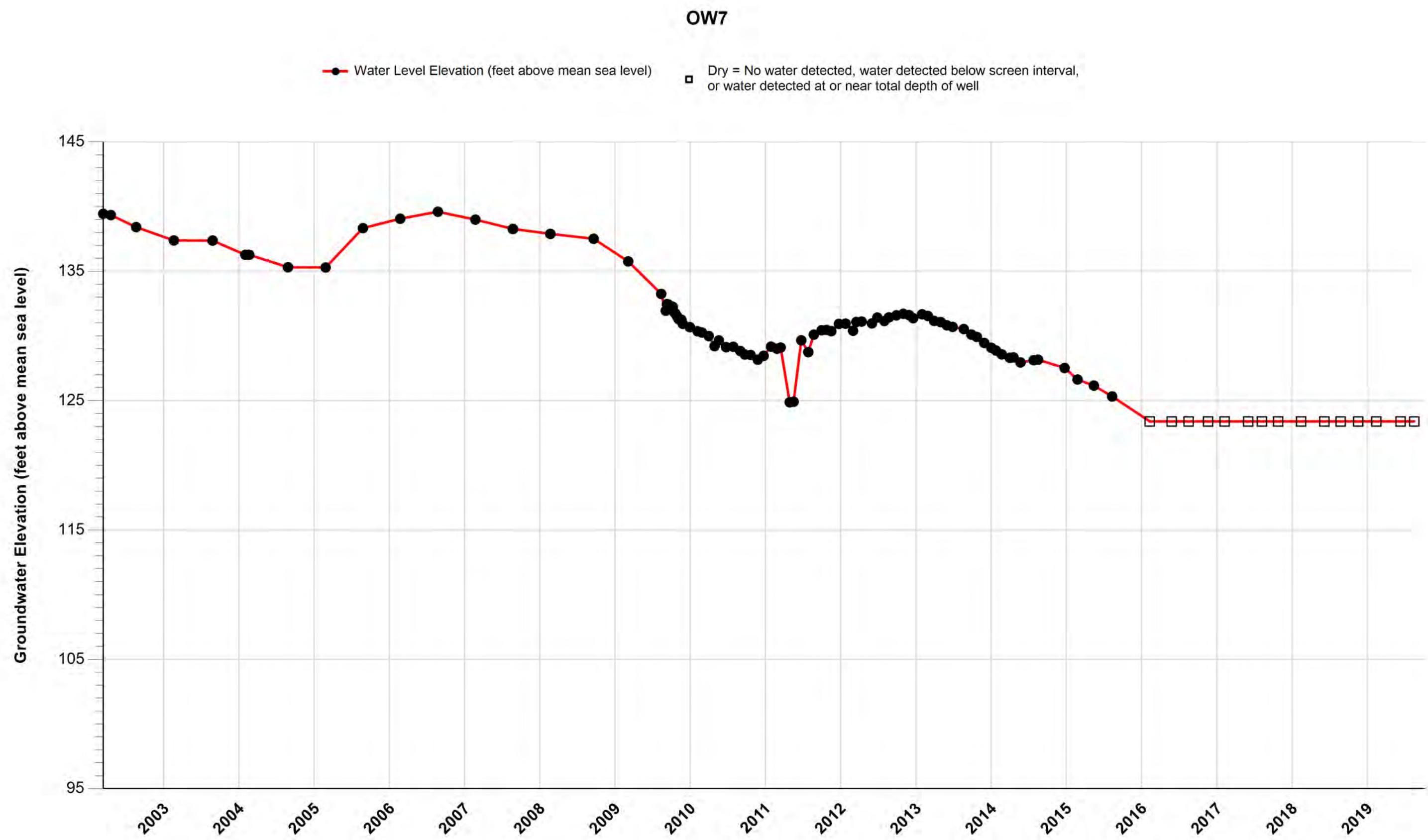
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OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



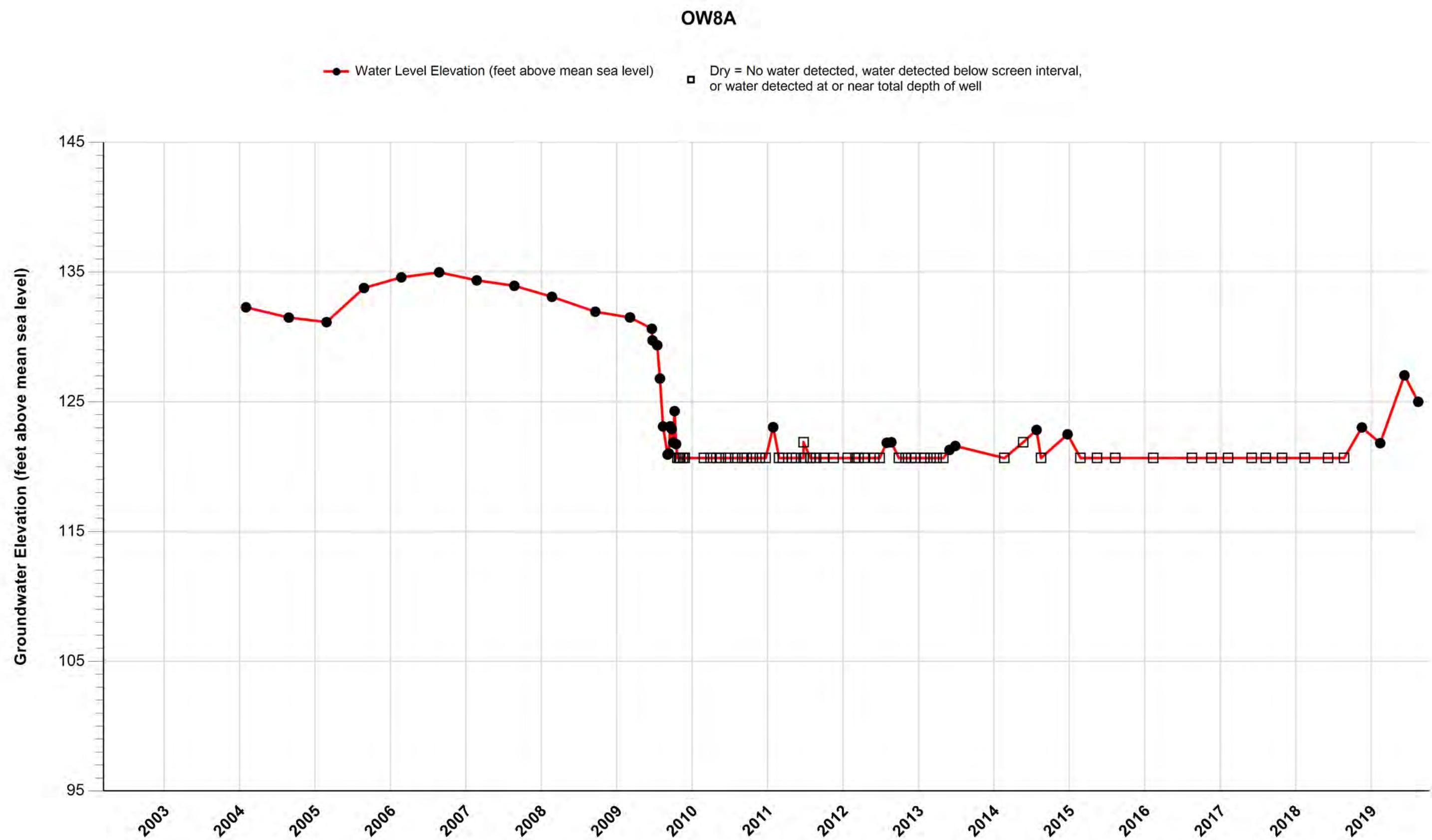
Attachment E, Figure E-14
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



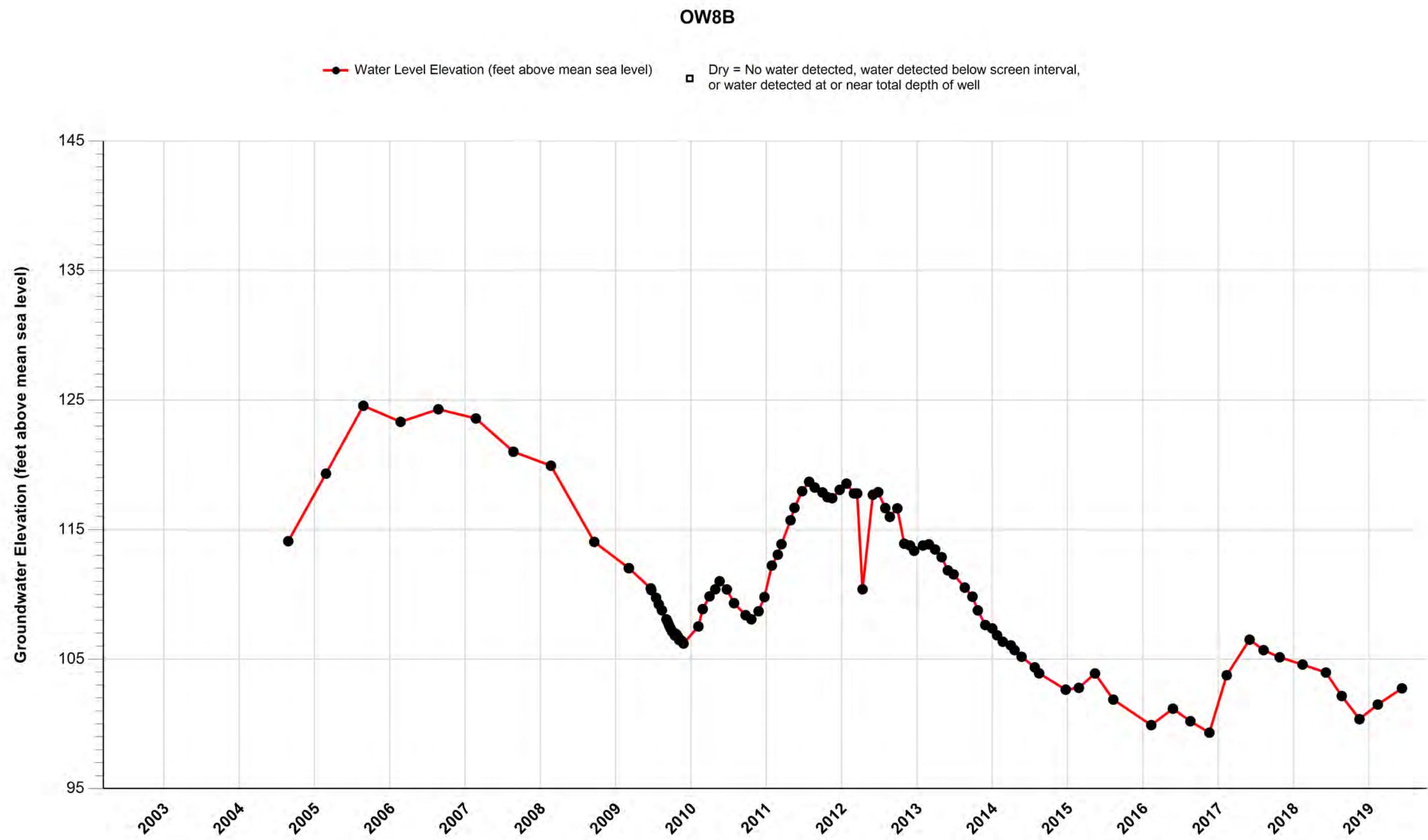
Attachment E, Figure E-15
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



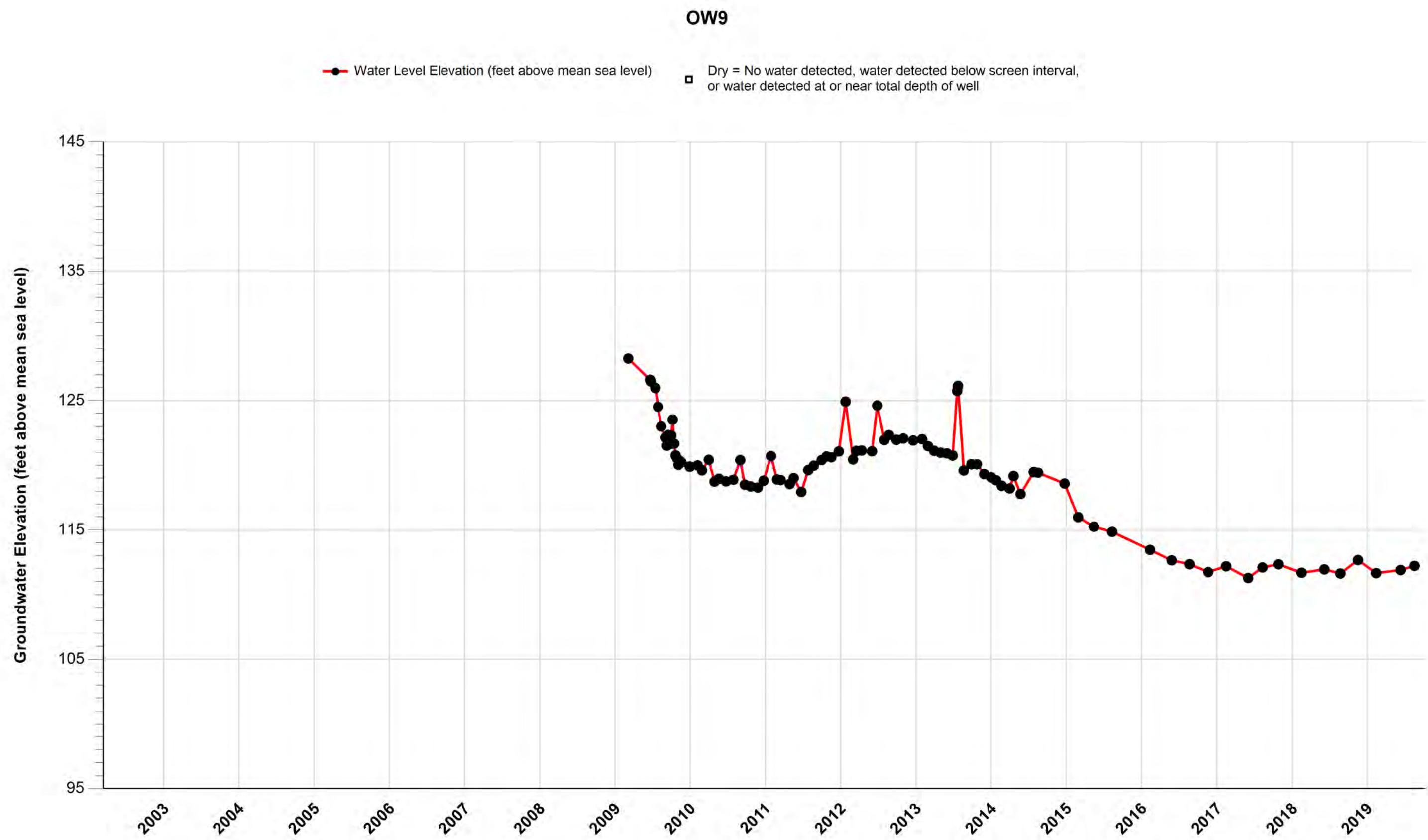
Attachment E, Figure E-16
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



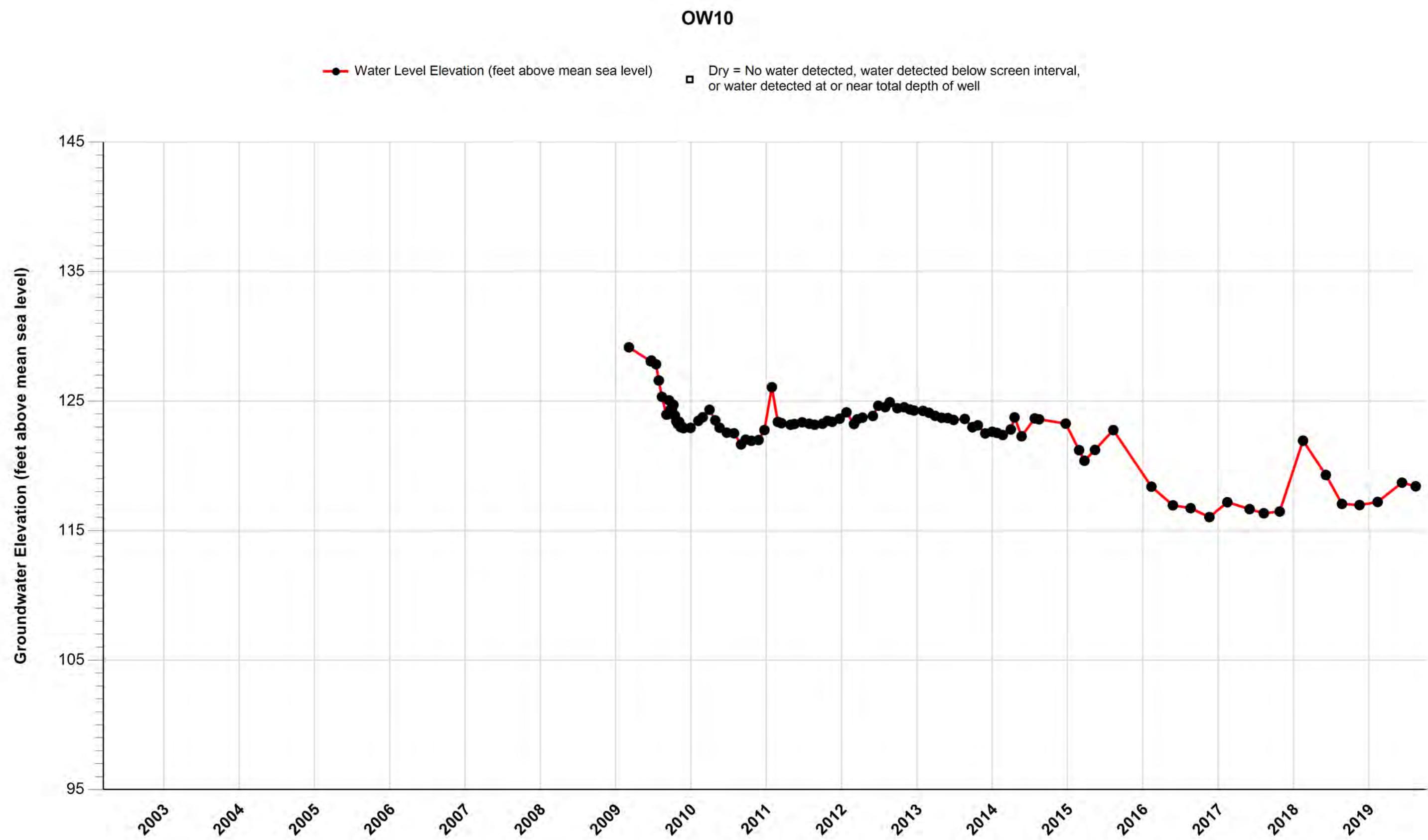
Attachment E, Figure E-17
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



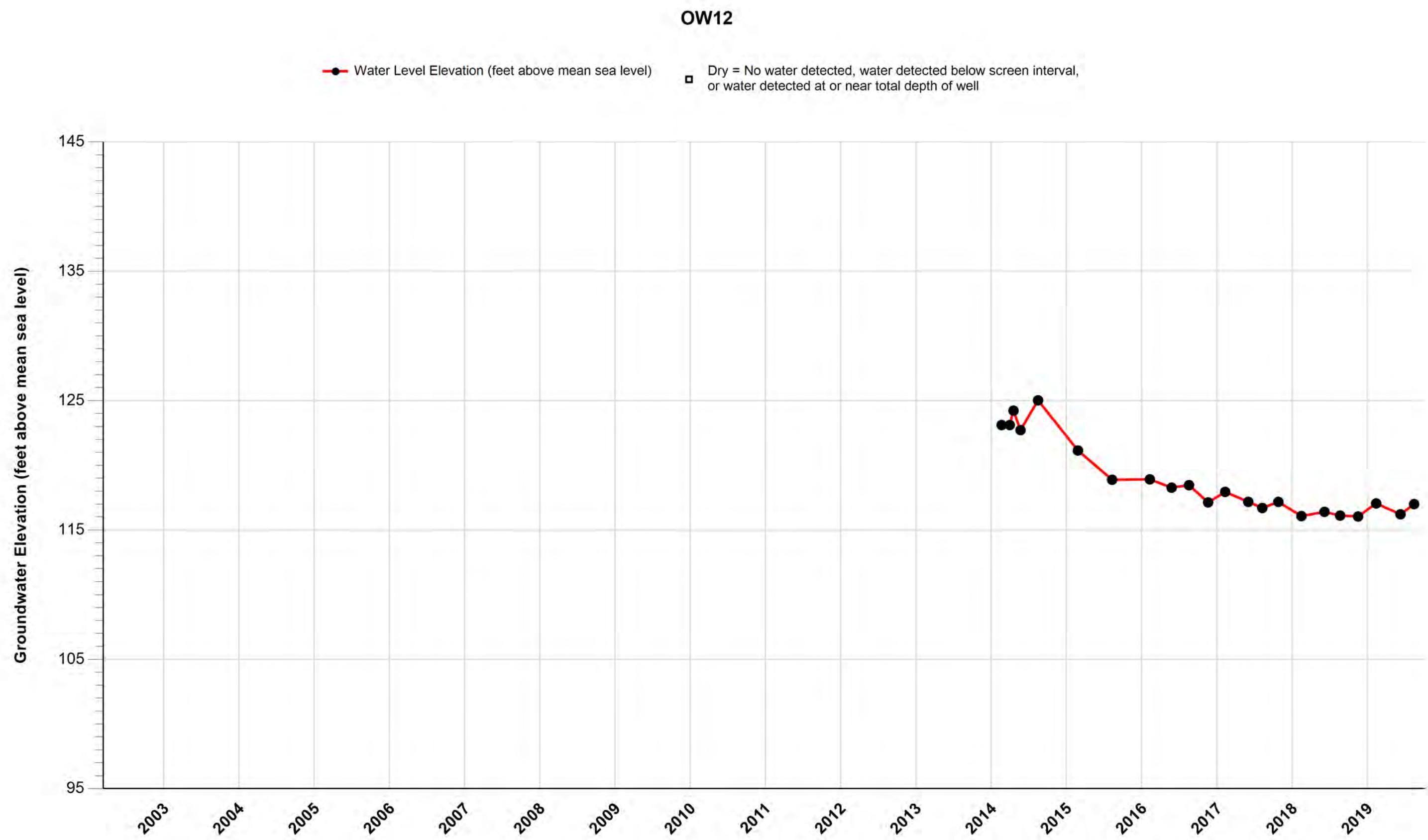
Attachment E, Figure E-18
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



Attachment E, Figure E-19
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data

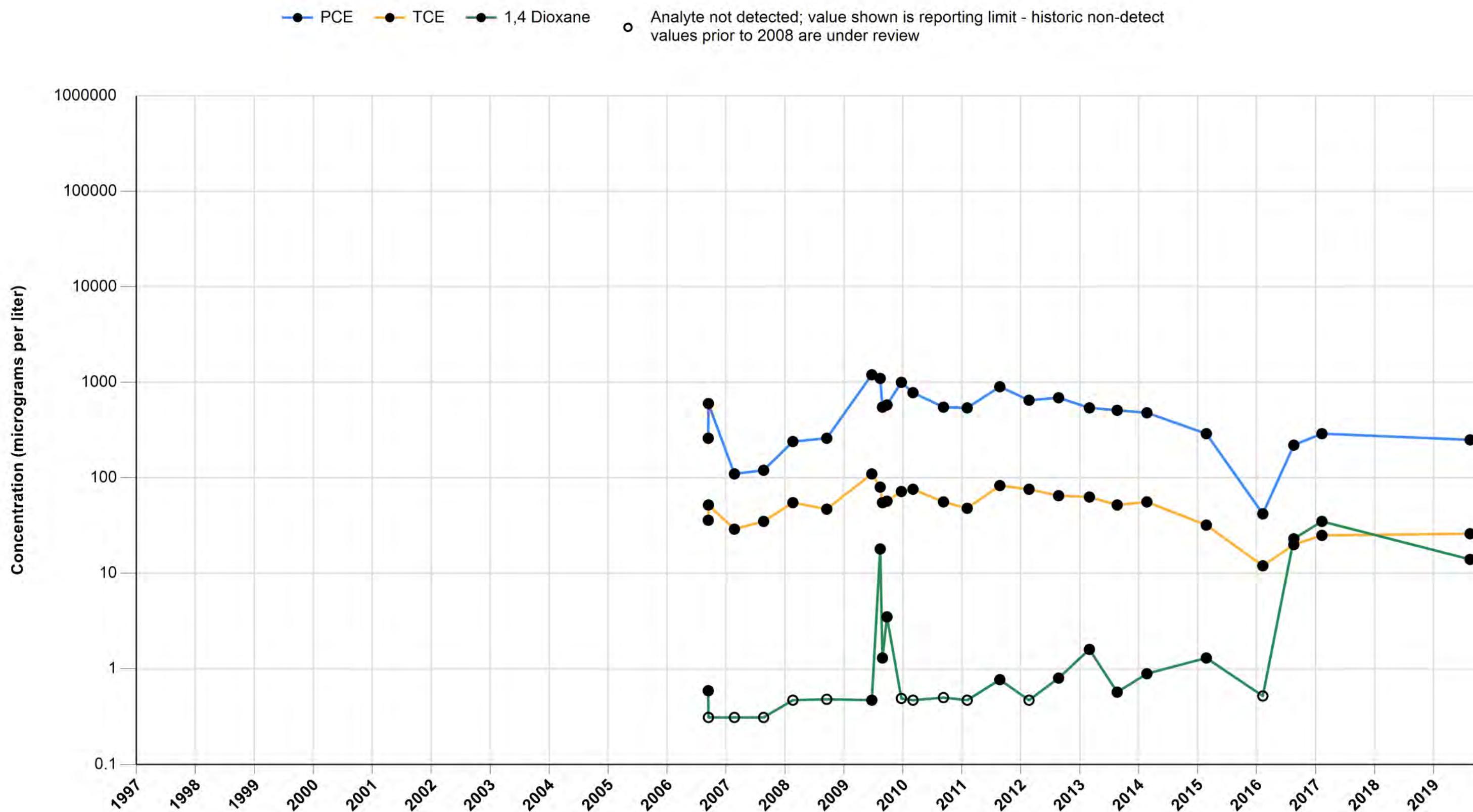


Attachment E, Figure E-20
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
PSVP Piezometric Data



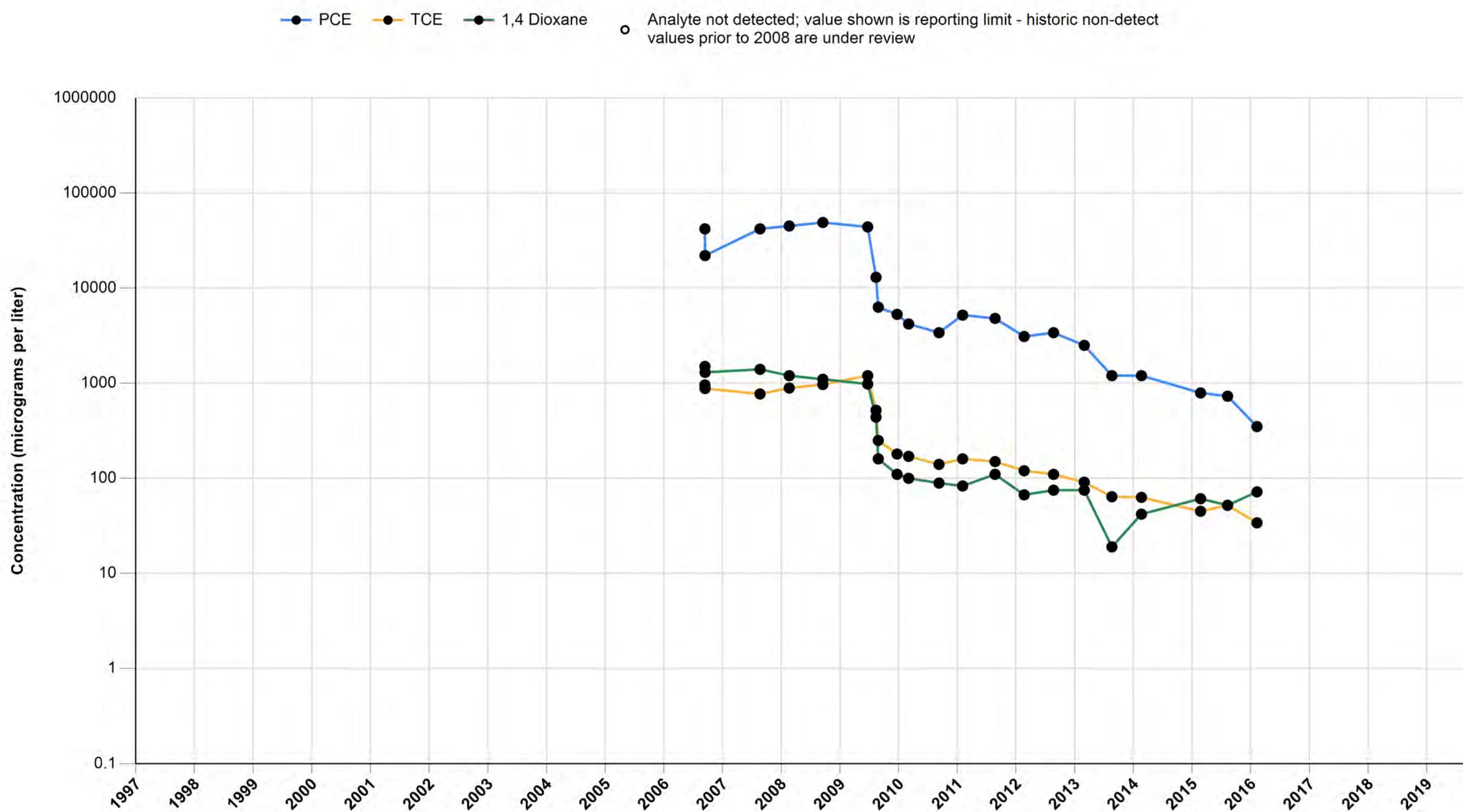
Attachment E, Figure E-21
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

EW-1



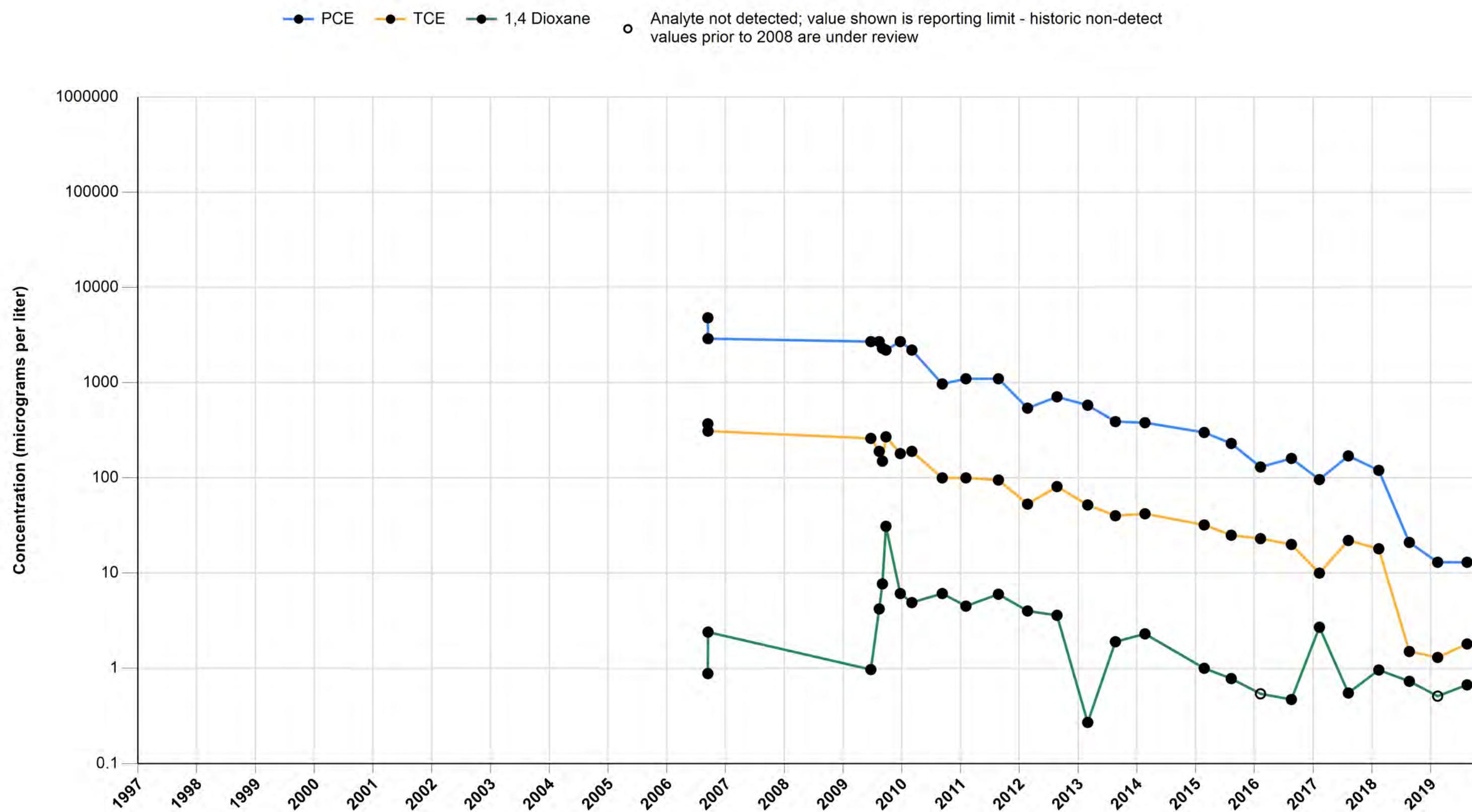
Attachment E, Figure E-22
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

EW-2



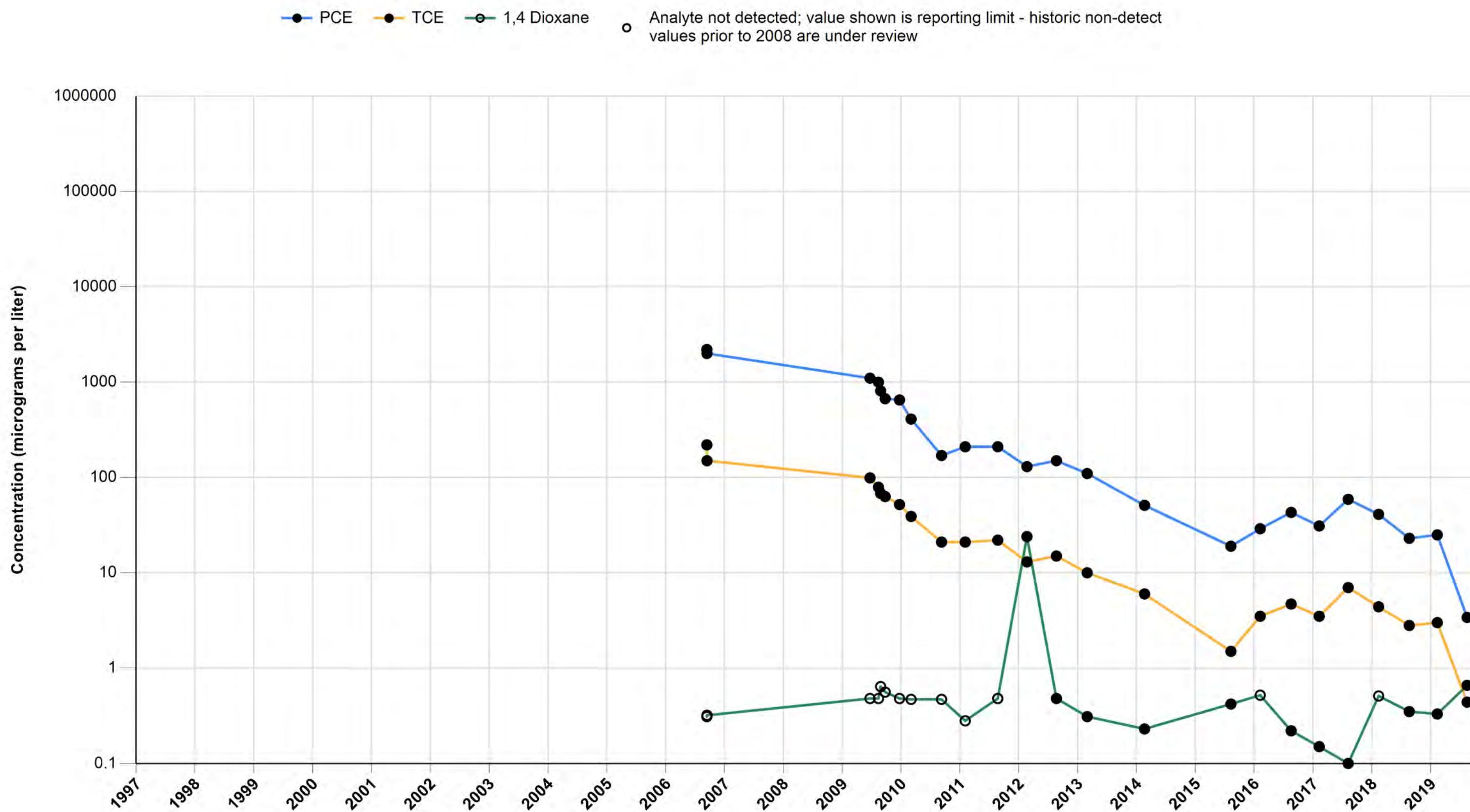
Attachment E, Figure E-23
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

EW-3



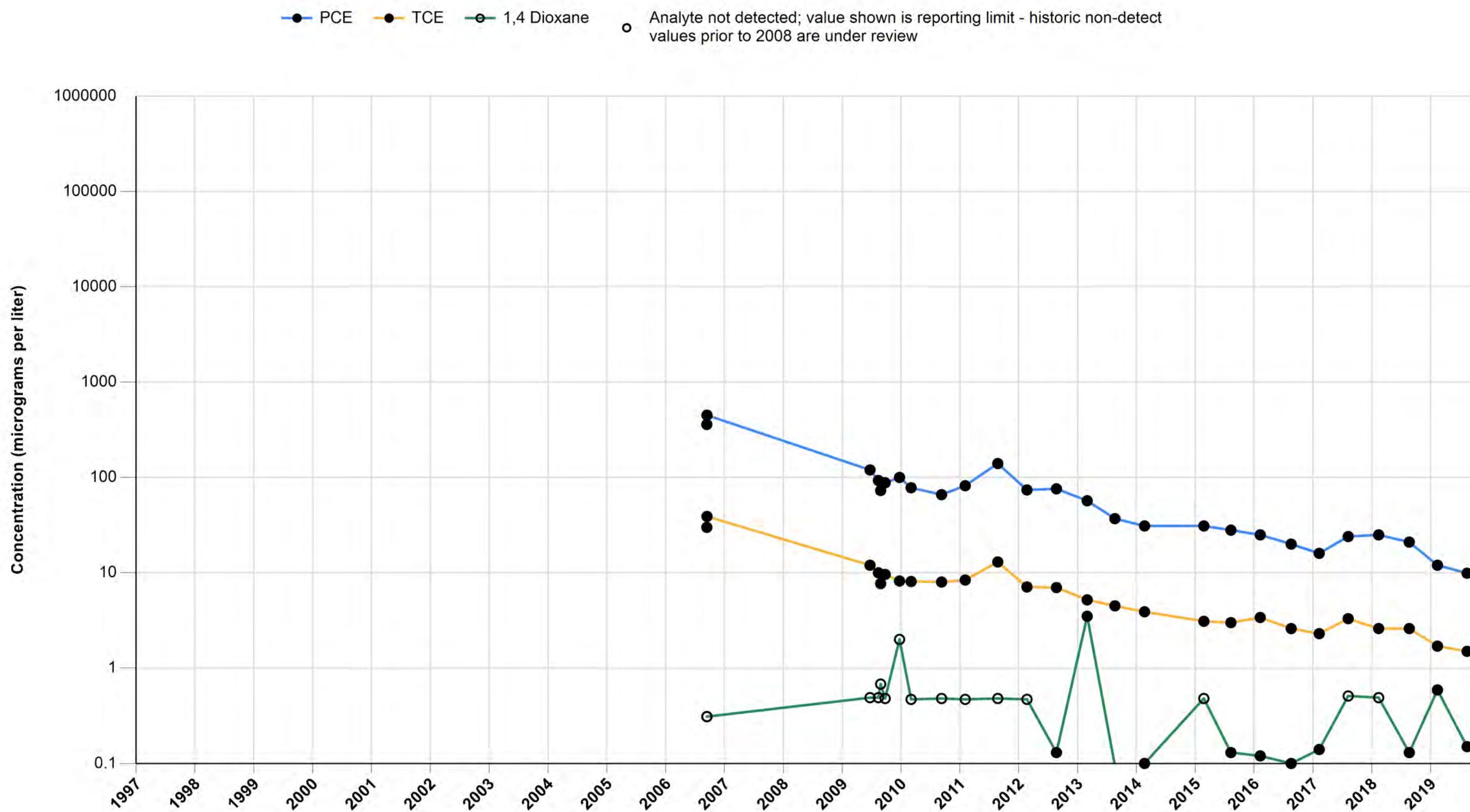
Attachment E, Figure E-24
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

EW-4



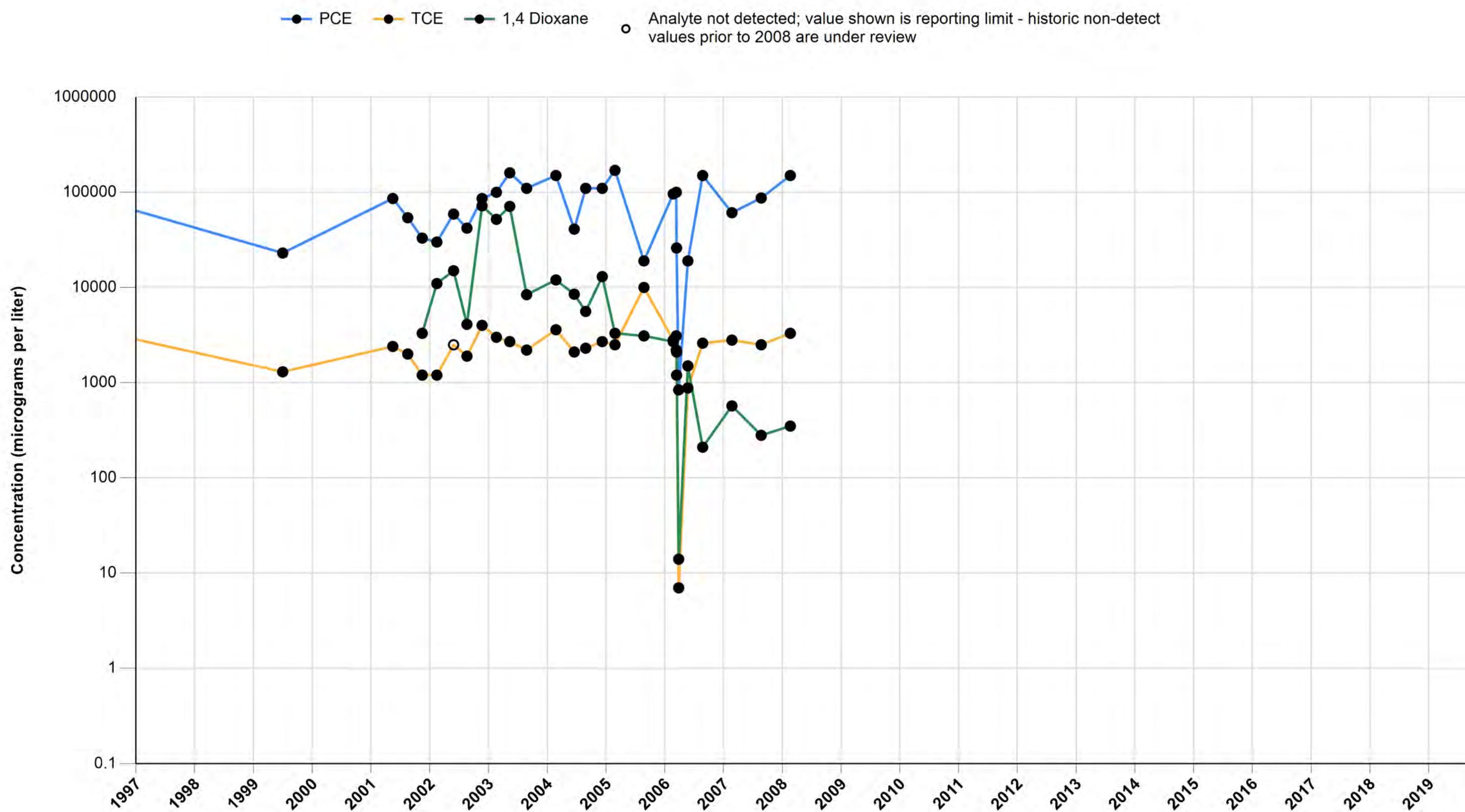
Attachment E, Figure E-25
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

EW-5



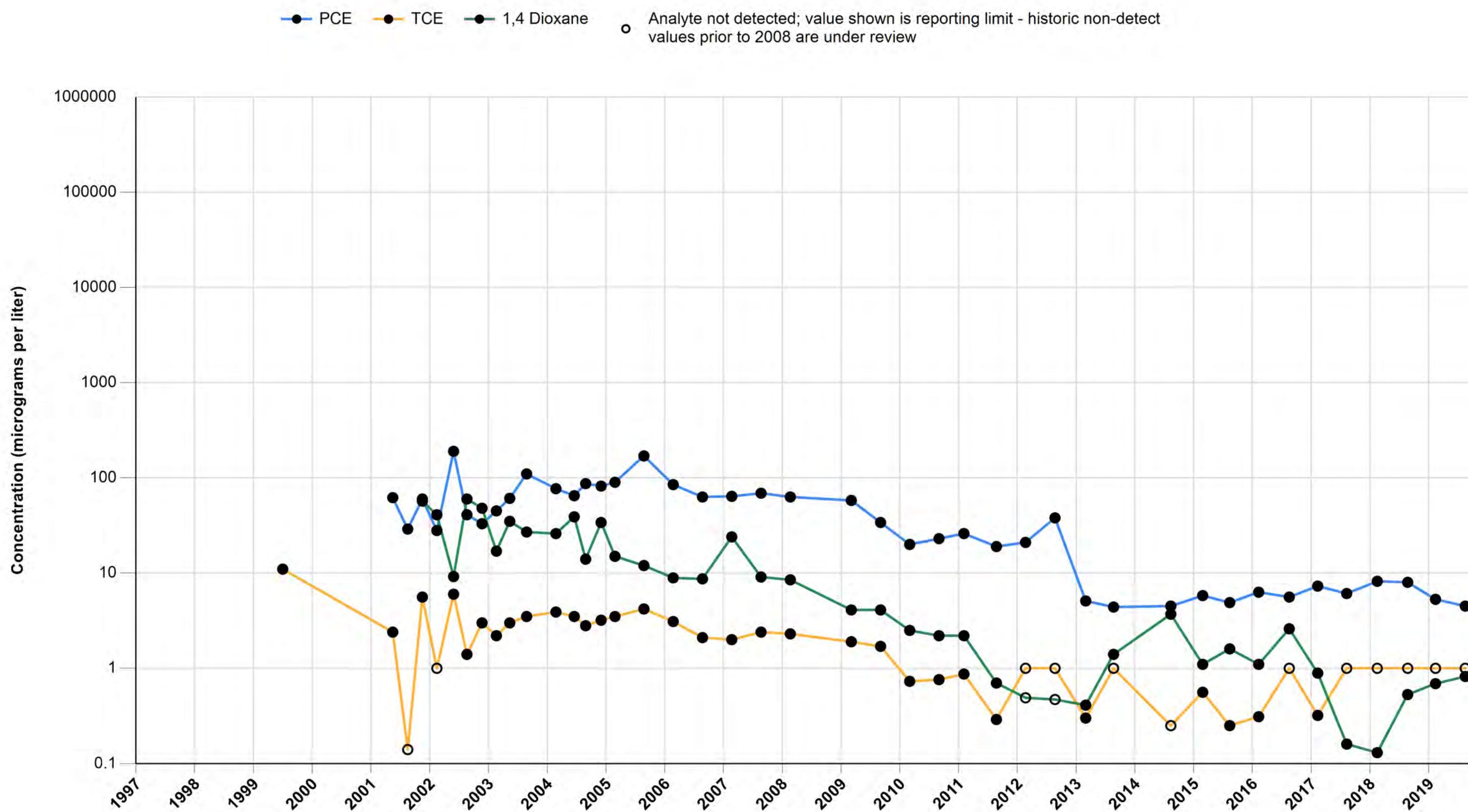
Attachment E, Figure E-26
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

OW1A



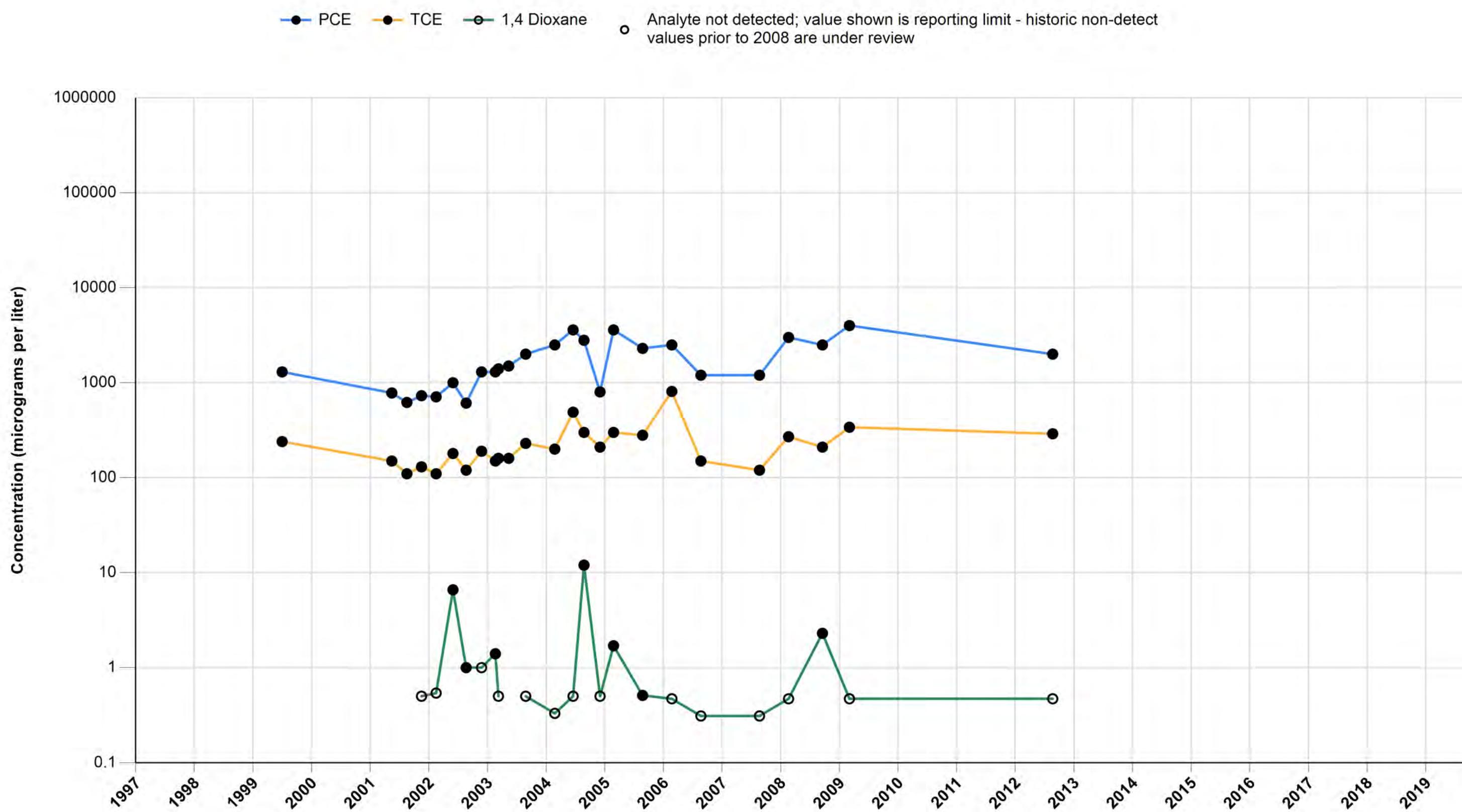
Attachment E, Figure E-27
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

OW1b



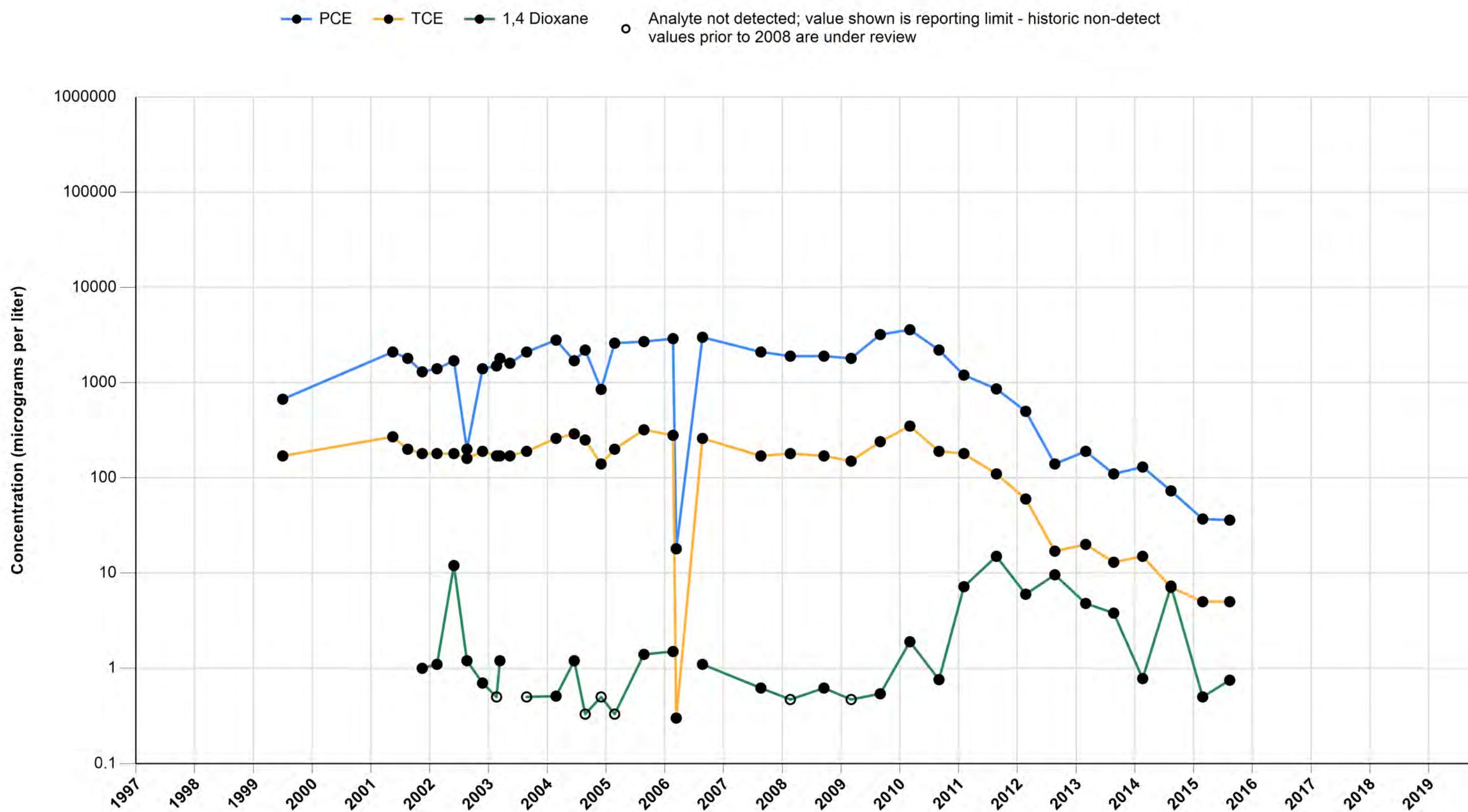
Attachment E, Figure E-28
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

OW2



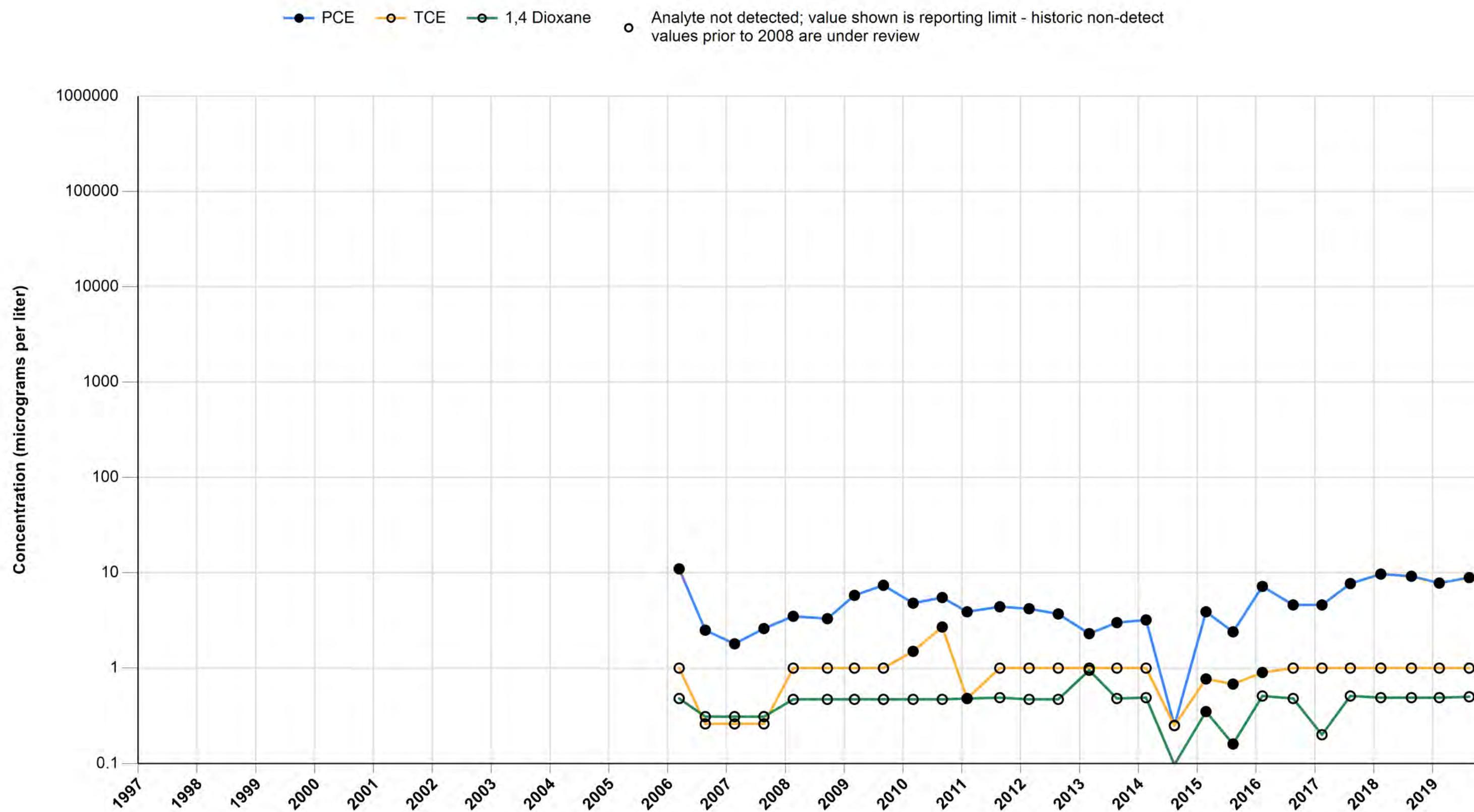
Attachment E, Figure E-29
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

OW3A



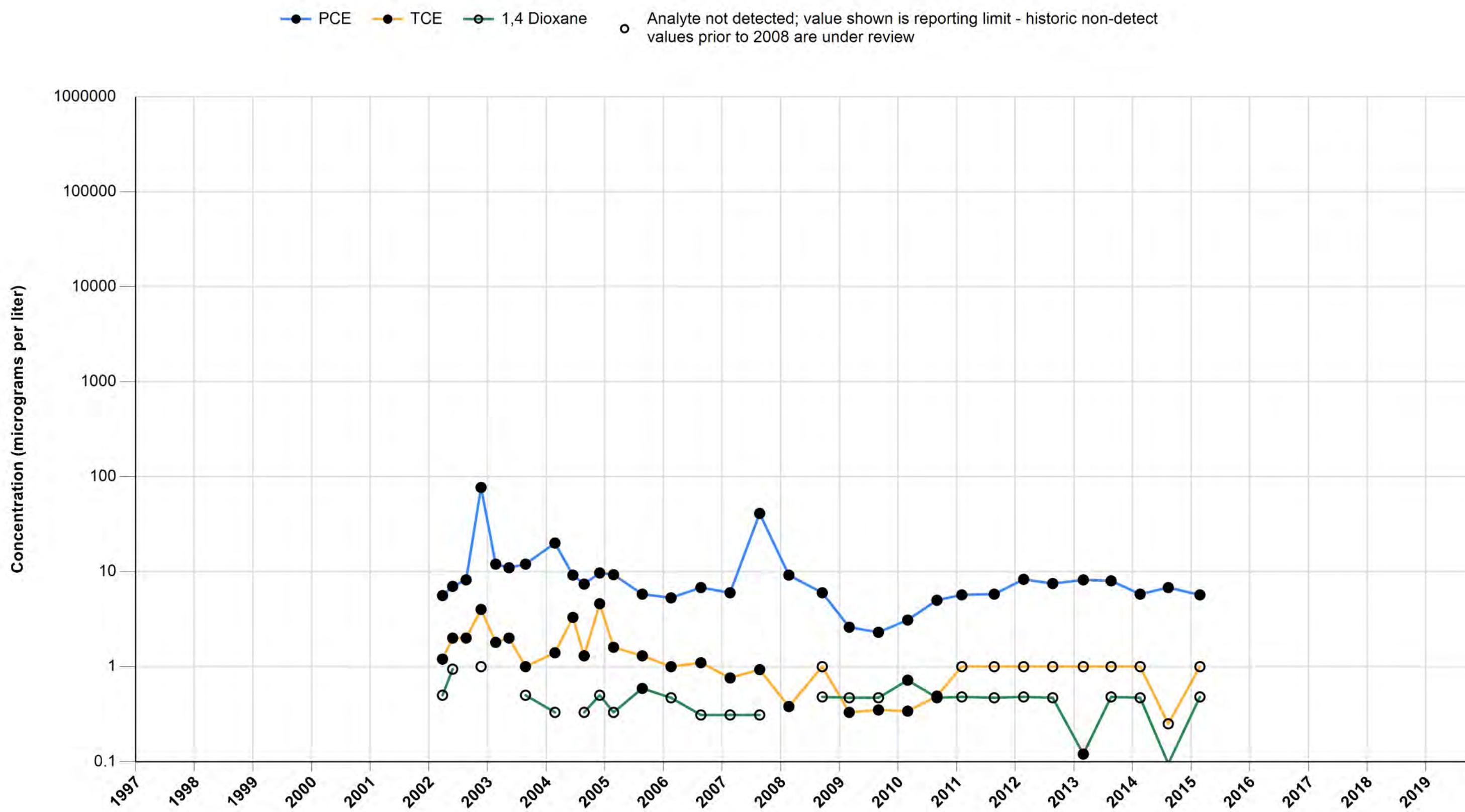
Attachment E, Figure E-30
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

OW3B



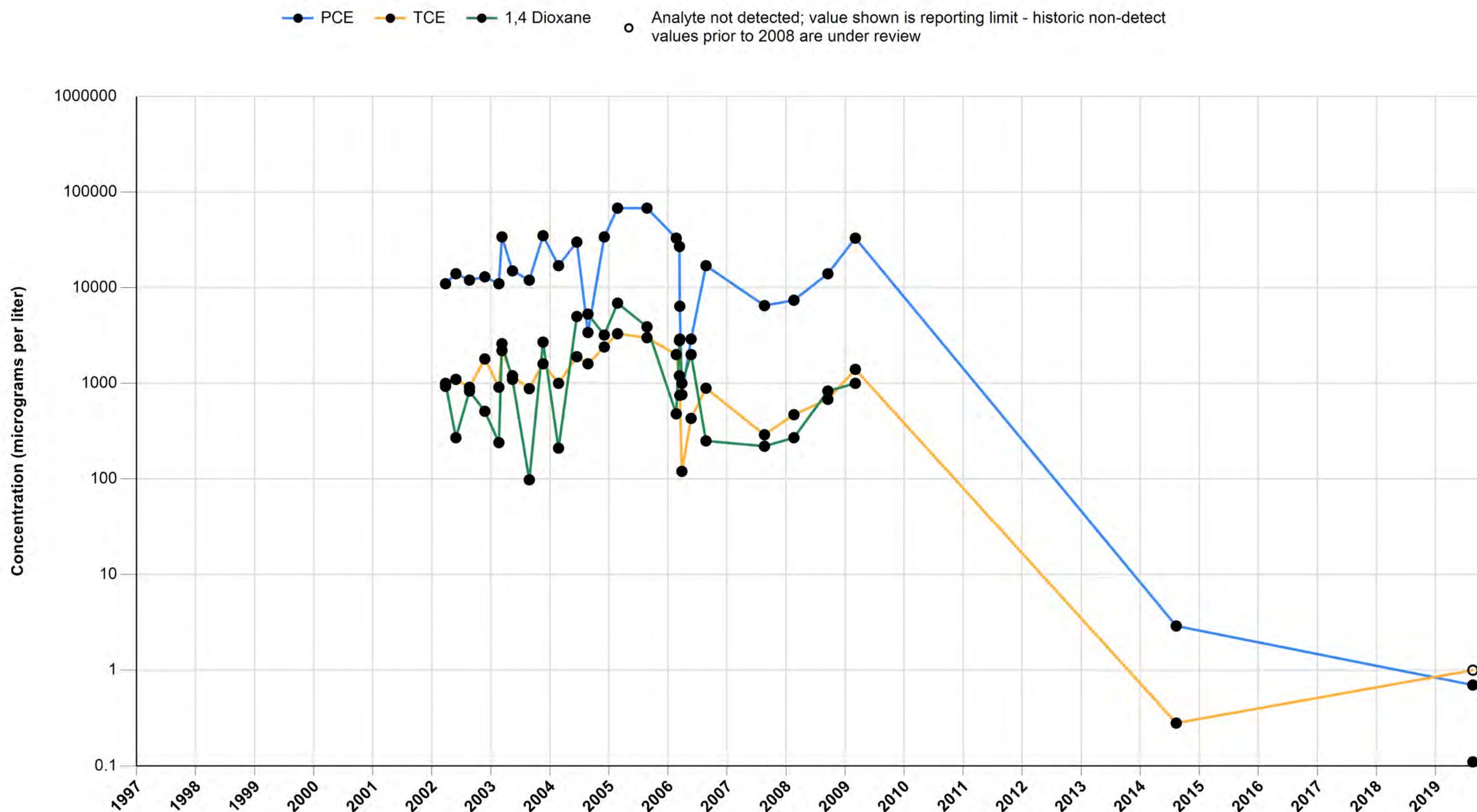
Attachment E, Figure E-31
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

OW7



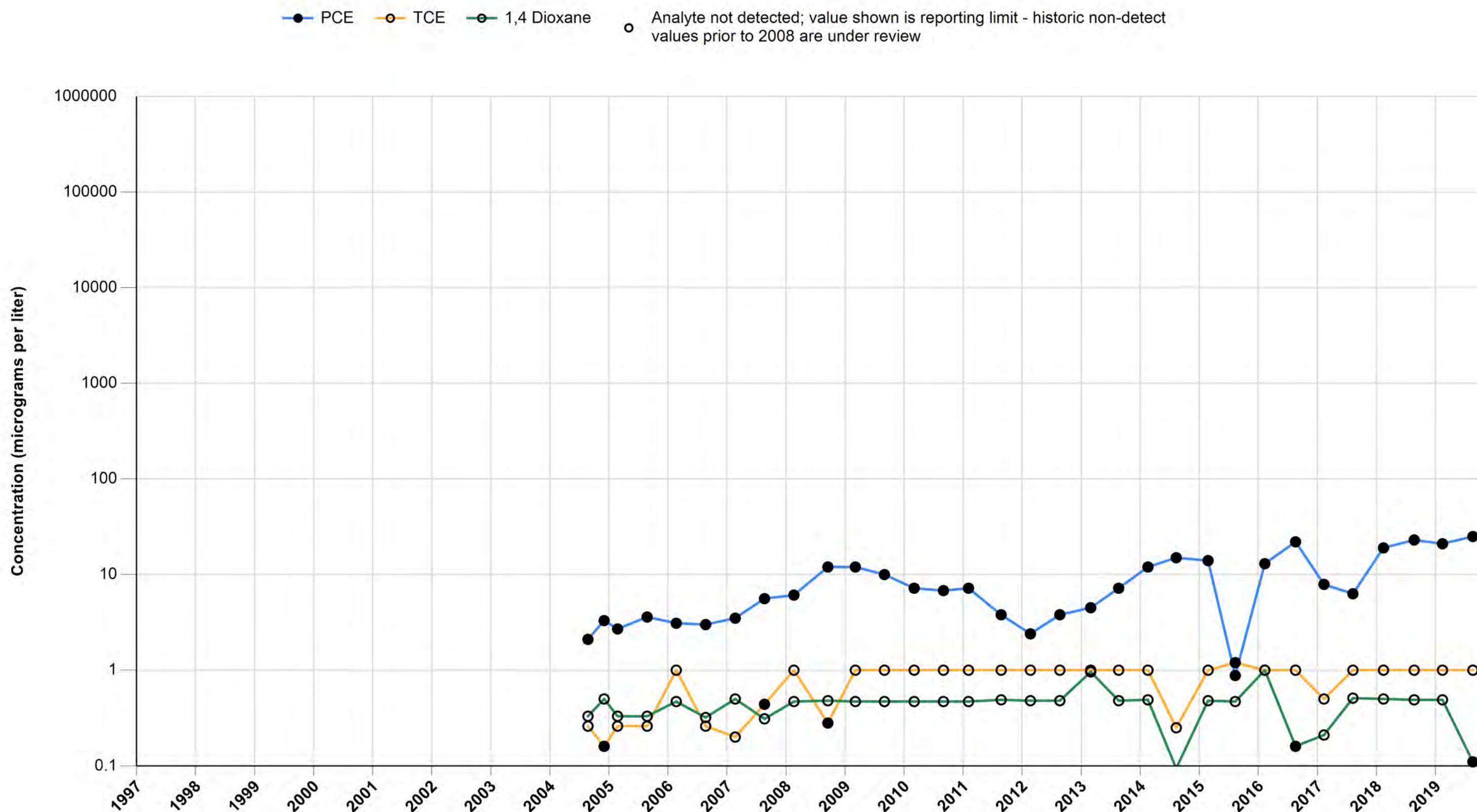
Attachment E, Figure E-32
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

OW8A



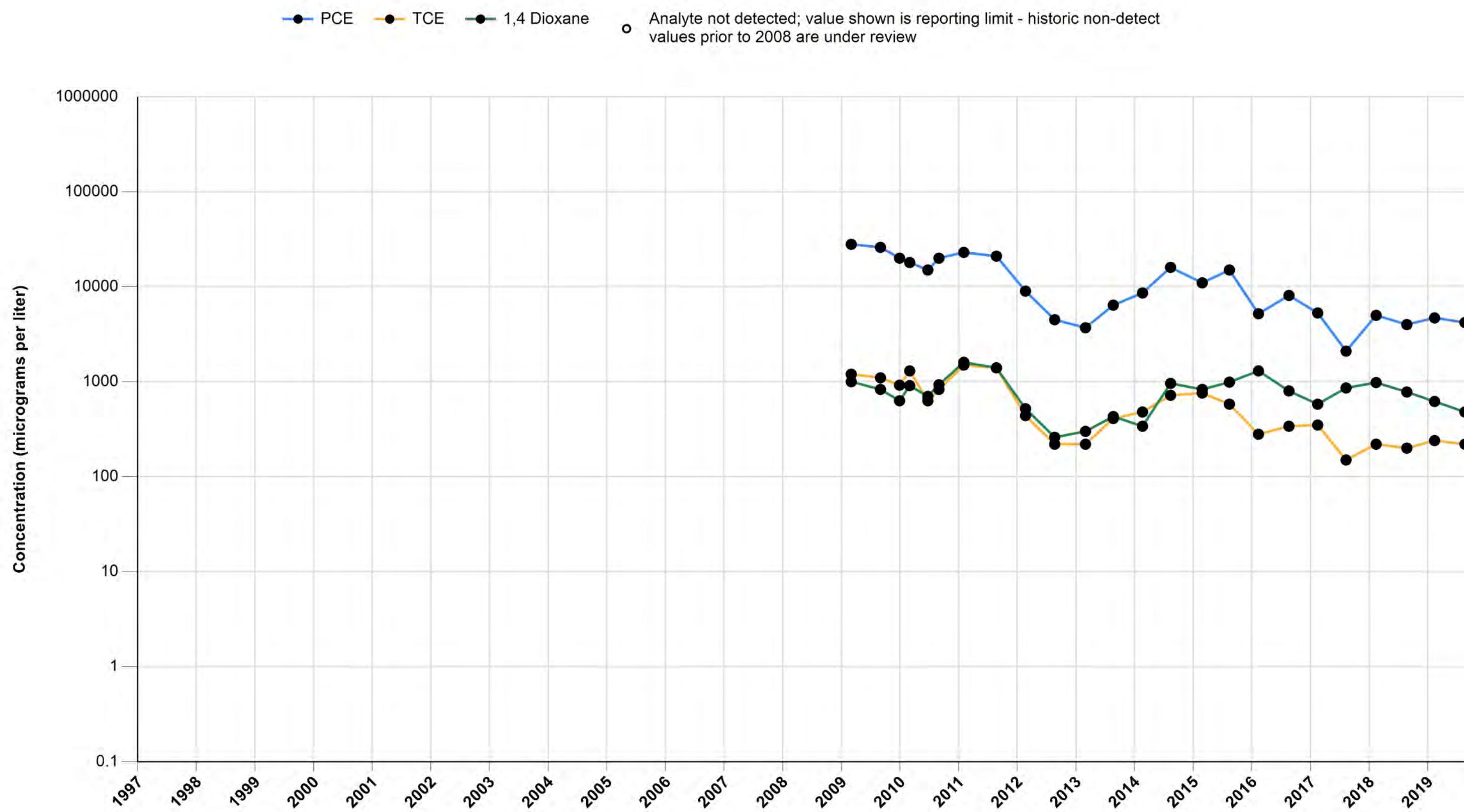
Attachment E, Figure E-33
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

OW8B



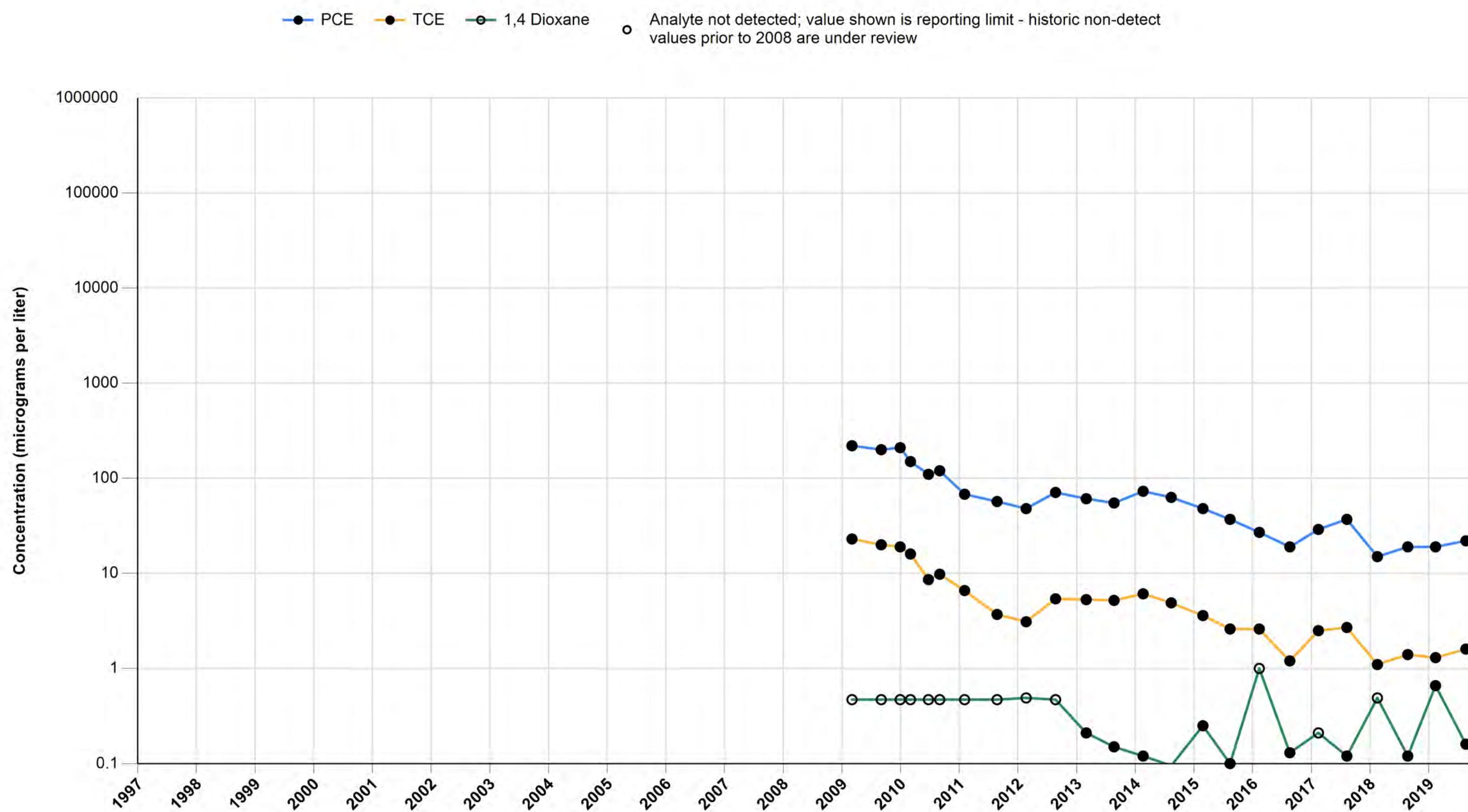
Attachment E, Figure E-34
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

OW9



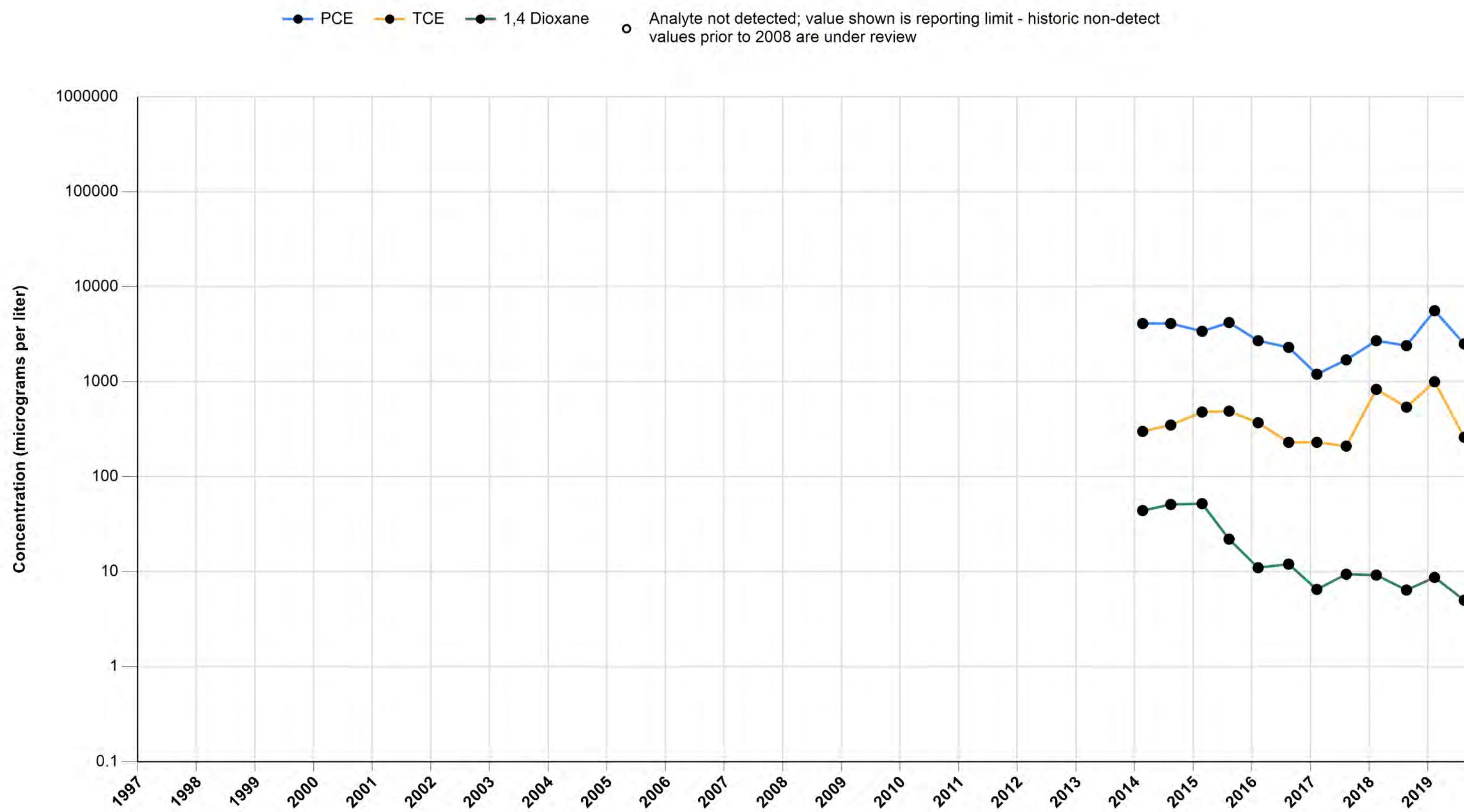
Attachment E, Figure E-35
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

OW10



Attachment E, Figure E-36
OU-1 Groundwater Containment Remedy, Omega Chemical Superfund Site
Groundwater Analytical (PCE, TCE and 1,4-Dioxane)

OW12



ATTACHMENT F

Quarterly Groundwater Containment Review



Memorandum

To: Jaime Dinello, de maximis, inc.

From: Matt Gamache, CDM Smith

Date: October 14, 2019

Subject: Omega Operable Unit 1 EE/CA Remedy

Quarterly Groundwater Containment Review – August 15-16, 2019

This memorandum provides and discusses the third quarter 2019 (3Q2019) groundwater elevation contours based on the August 15-16, 2019 groundwater monitoring gauging activities, and the response of the local groundwater table to the Omega Operable Unit (OU)-1 Groundwater Containment Remedy (GCR) operation, which was installed and began operating in 2009. The primary goal of the GCR is to contain the highest levels of contamination dissolved in groundwater within OU-1, so that the contamination does not migrate and contribute to the downgradient regional groundwater plume.

Extraction wells (EWs) located along Putman Street are designed to provide a hydraulic barrier at the down-gradient boundary of OU-1 (Figure F-1). In addition to operation of the GCR hydraulic containment extraction wells, other groundwater extraction is occurring within OU-1. Seven dual-phase extraction (DPE) wells are also operating and extracting groundwater within OU-1. These DPE wells were constructed in June through December 2014 as part of the Full Scale On-Site (OU-1) Soil Remedy under the 2010 Consent Decree between the USEPA and OPOG and are also shown on Figure F-1. Although installed as part of the OU-1 soil remedy to increase subsurface vapor removal, the DPE wells are currently extracting the majority of the water treated by the GCR groundwater treatment plant.

On August 15-16, 2019, in accordance with the approved Performance Standards Verification Plan (PSVP; CDM, 2007), water level elevations were measured manually for the purposes of demonstrating hydraulic containment of groundwater within OU-1. The majority of the monitoring points used in this evaluation lie within the boundaries of OU-1. However, selected monitoring points immediately adjacent to OU-1 (e.g. PZ-3, OW-9, and OW-11) are also used to assess the performance of the OU-1 groundwater remedy. All PSVP-required locations were measured manually during 3Q2019. These data are plotted along with interpreted water level elevation contours (1-foot interval) on Figure F-1 and demonstrate that OU-1 groundwater is contained.

The water-level contour map (Figure F-1) demonstrates that flow from the former Omega Chemical property located at 12504 and 12515 Whittier Blvd. Whittier, California (property) is primarily converging along Putnam Street, around the OU-1 Soil Remedy well DPE-9 and west of Putnam Street

around the OU-1 Soil Remedy wells VE-7D and VE-10D. The total average extraction rate associated with the August 15-16, 2019 water level data is 5.57 gpm, resulting in a similar capture zone to previous quarters.

Horizontal gradients within OU-1 are variable, at approximately 0.04 ft/ft from the property toward Putnam Street. The horizontal gradients between OW-3A and DPE-9 and between OW-9 and VE-10D (along and to the west of Putnam Street) were 0.06 ft/ft and 0.12 ft/ft, respectively on August 15-16, 2019, which are very similar to those recorded in 2Q2019.

Vertical gradients are examined at one well triplet and two well pairs: OW-1A/OW-12/OW-1B, OW-3A/OW-3B, and OW-8A/OW-8B, the locations of which are shown on Figure F-2. For each set of wells, the 'A' well is screened in the A-zone and the 'B' well is screened in the B-zone. OW-12 is also screened in the A-zone in-between OW-1A and OW-1B. The A-zone, essentially the water table aquifer, is currently being pumped by the GCR EWs and the OU-1 Soil Remedy DPE wells. The A-zone is the principal zone impacted by VOCs at the site.

The A and B-zones show minimal hydraulic connection as evidenced by the significant difference in head between them. The lithologic data demonstrate the presence of a 30-foot thick layer of clayey silt or silty clay that underlies the A-zone and acts as a confining unit between these zones, as shown on cross sections A-A' and B-B', further illustrating this hydraulic and physical vertical separation. The locations of both sections are shown in Figure F-3 and the cross sections themselves are shown in Figures F-4 (A-A') and A-5 (B-B'). In Figure F-4, the well screens of OW-3B and OW-8B are shown to be below the confining unit that underlies the A-zone. In Figure F-5, the lithology around OW-1A, OW-12, and OW-1B varies from what is observed at the other well pairs. In this instance, OW-1A is partially screened within a sand layer, but the area around the OW-12 and OW-1B well screens has been classified as clayey silt or silty clay. Since there are no lithological markers differentiating the two lower-screened wells (OW-12 and OW-1B), the groundwater elevations must be used to infer the degree of hydraulic connection/separation. Hydrographs of the water levels over time at these three wells are shown in Figure F-6. Although OW-1A has been dry for most of the OW-12 data collection period, vertical (downward) gradients can be seen between these two wells in the few instances where water was found at OW-1A since 2013. Vertical (downward) gradients between OW-12 and OW-1B are also present for all synoptic rounds of data except for August 2017, when groundwater elevations are approximately 117 feet MSL at both wells. Despite these similar elevations in August 2017 and again on February 2018, the units screened by these two wells are still considered to be hydraulically separated. This is similar to what has been observed at OW-3A/OW-3B (Figure F-7) and OW-8A/OW-8B (Figure F-8).

The area covered by the cone of depression in 3Q2019 is similar to what was observed and documented in 2Q2019 (CDM Smith, 2019) due to relatively consistent overall pumping. The combination of GCR extraction, OU-1 Soil Remedy extraction, and the regional drought conditions has essentially dewatered the A-Zone aquifer. As demonstrated on Figure F-1, containment of the OU-1 groundwater is attained.

October 14, 2019

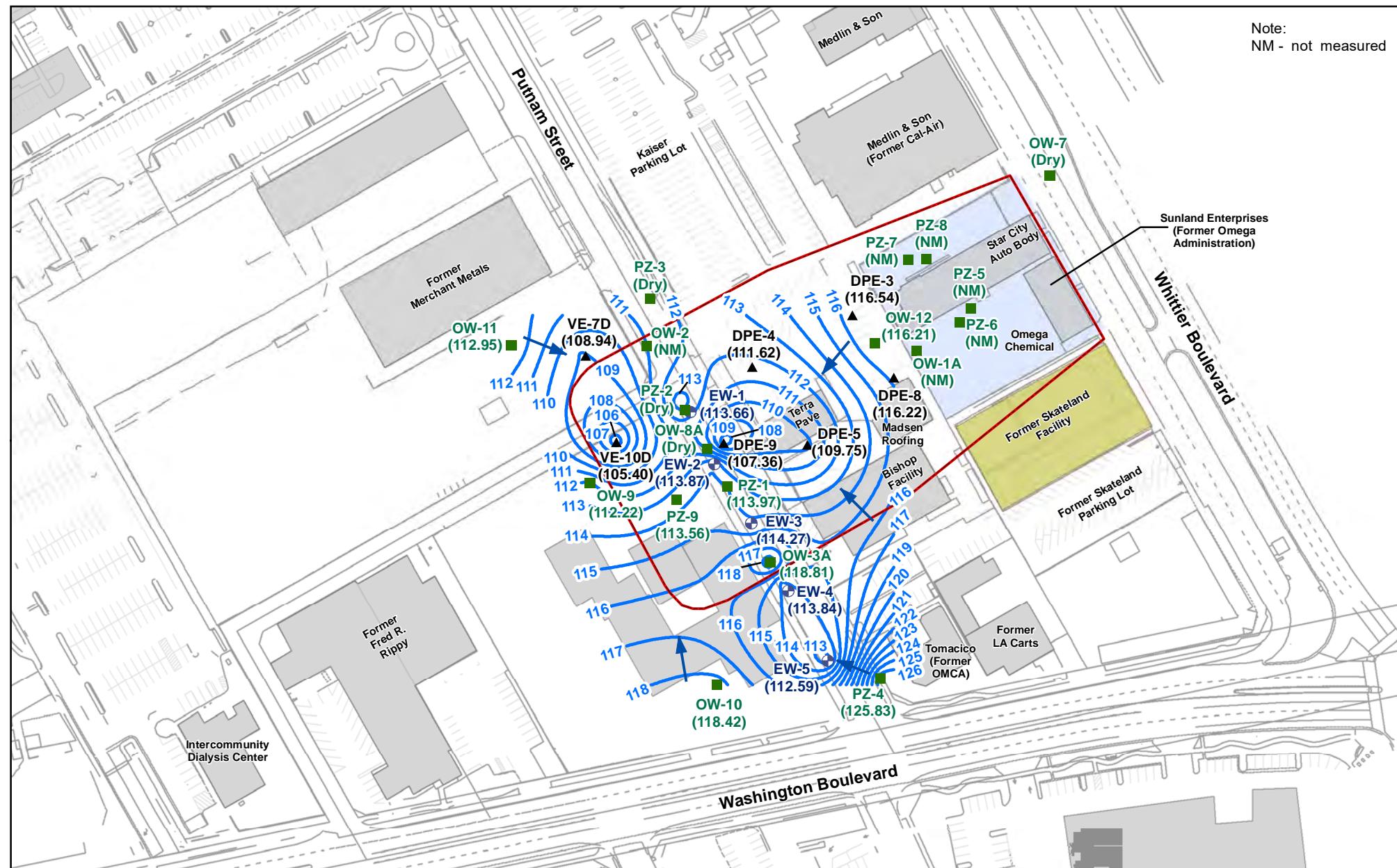
Page 3

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CDM, 2007. *Performance Standards Verification Plan for Phase 1a Area Groundwater Treatment System.* April 19, 2007.

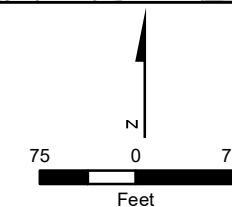
CDM Smith, 2019. *Omega Operable Unit 1 EE/CA Remedy Quarterly Groundwater Containment Review – June 10-11, 2019.* July 2, 2019.

Note:
NM - not measured



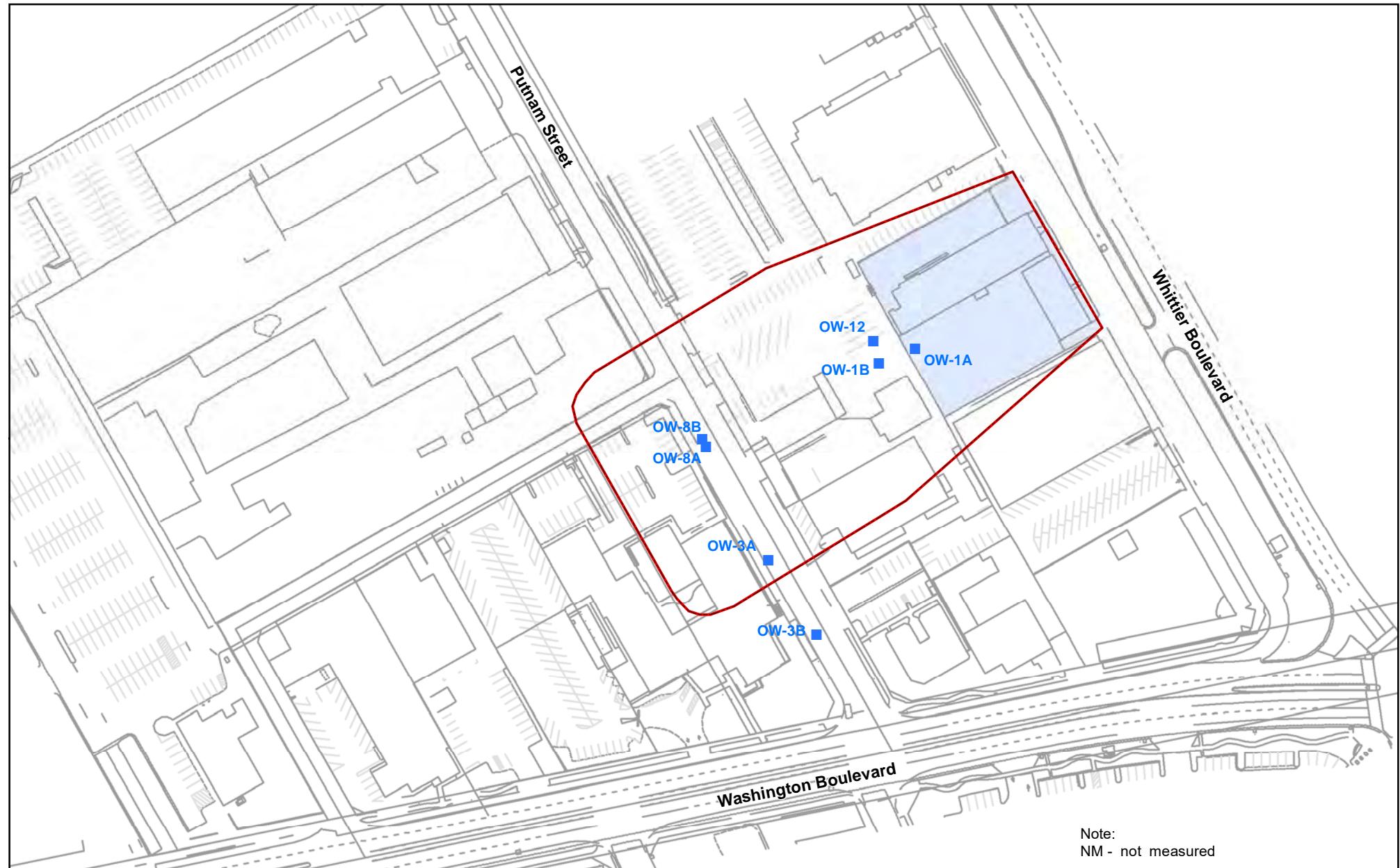
Legend

- Phase Ia Area
- Former Omega Chemical Property
- Existing Building
- Former Building
- Groundwater Elevation Contour - Dashed where Inferred (Feet above mean sea level)
- Groundwater Flow Direction
- Extraction Well
- Shallow Observation Well / Piezometer
- Dual Phase Extraction Well Location



Omega Chemical
Shallow Zone
Groundwater Contour Map
August 15 - 16, 2019

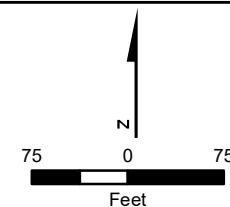
Figure F-1

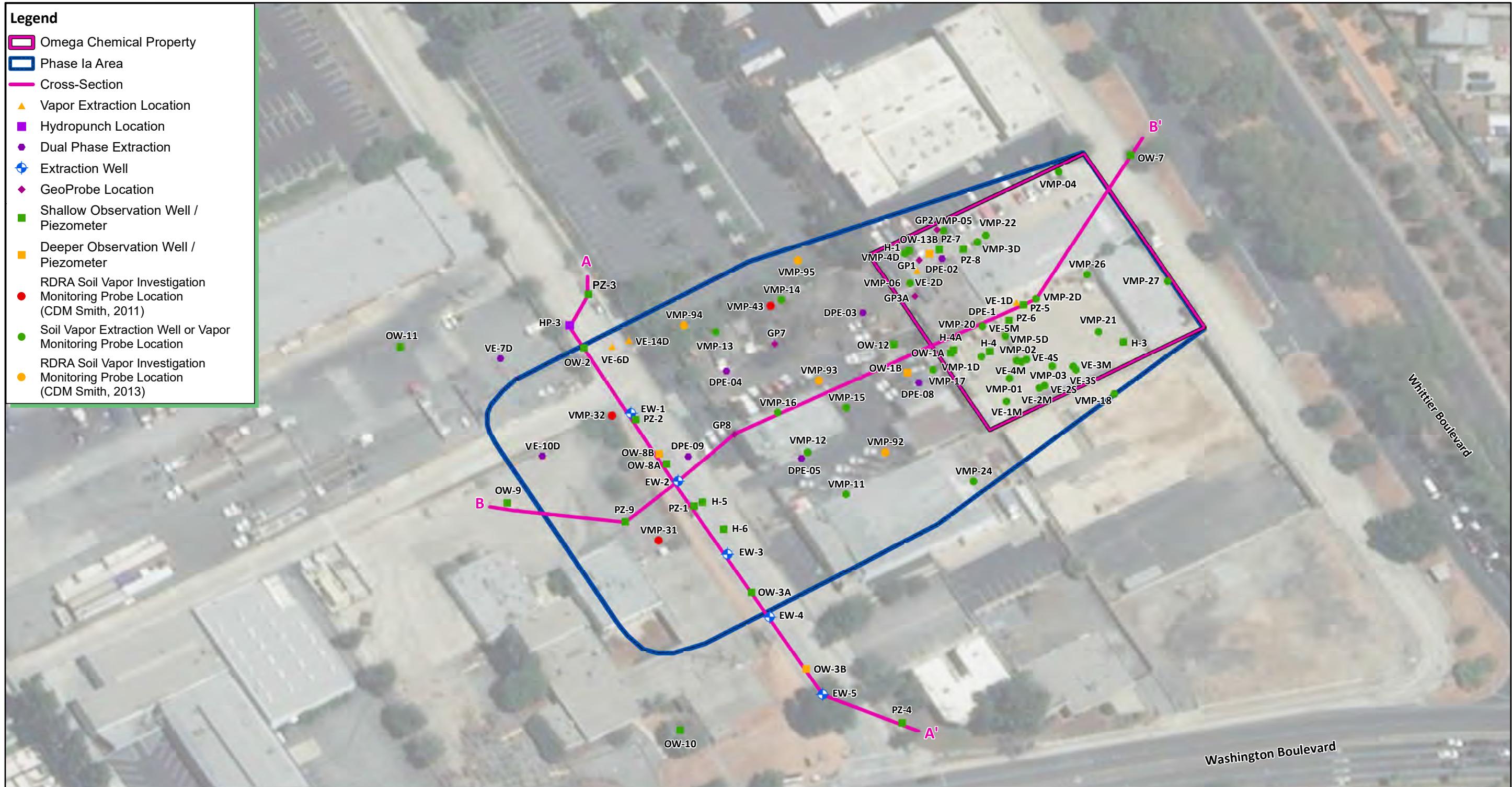


Legend

- Phase Ia Area
- Former Omega Chemical Property
- Observation Well Pair (A-zone/B-zone)

Omega Chemical
A-zone/B-zone Well Pairs

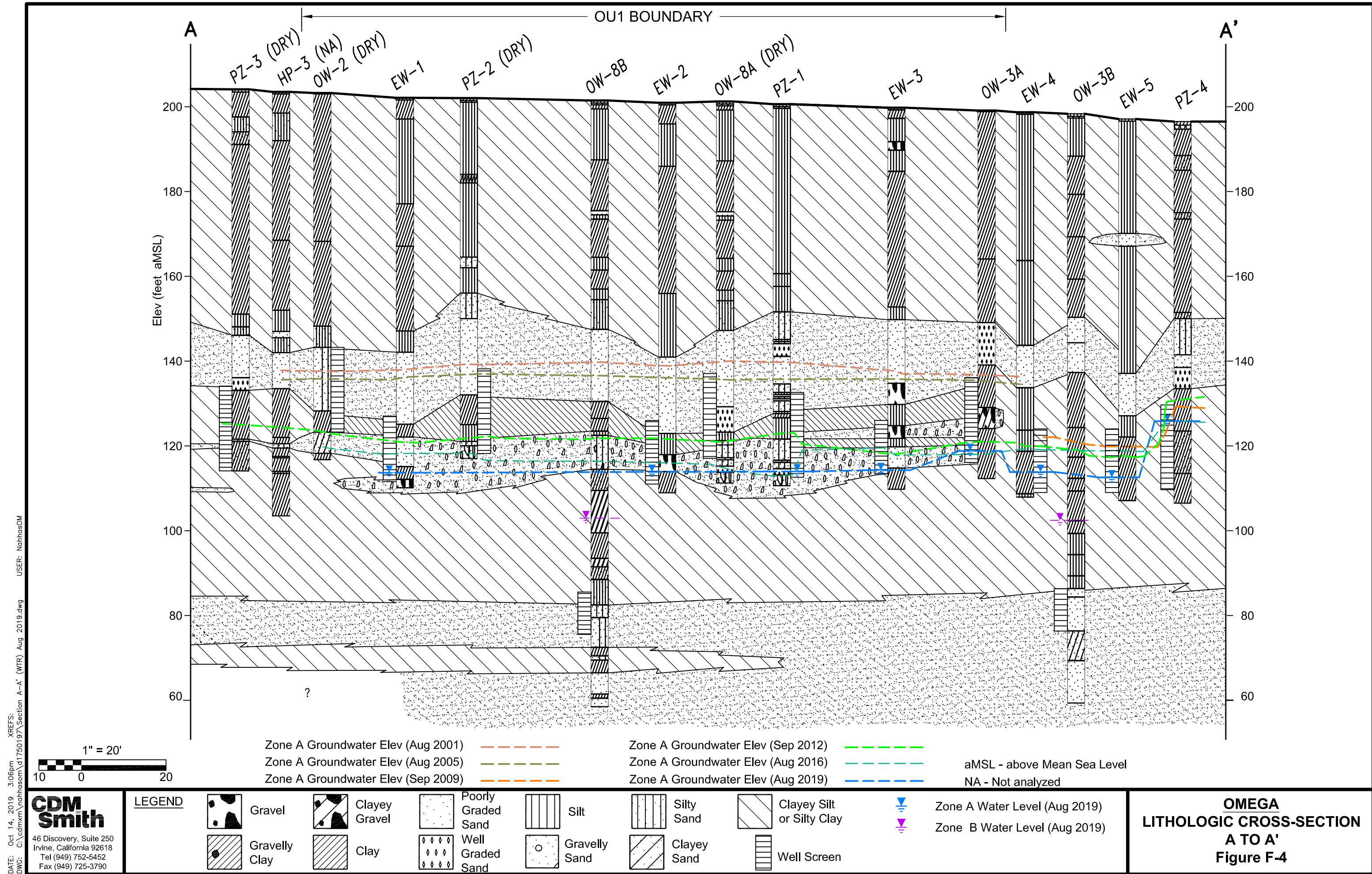


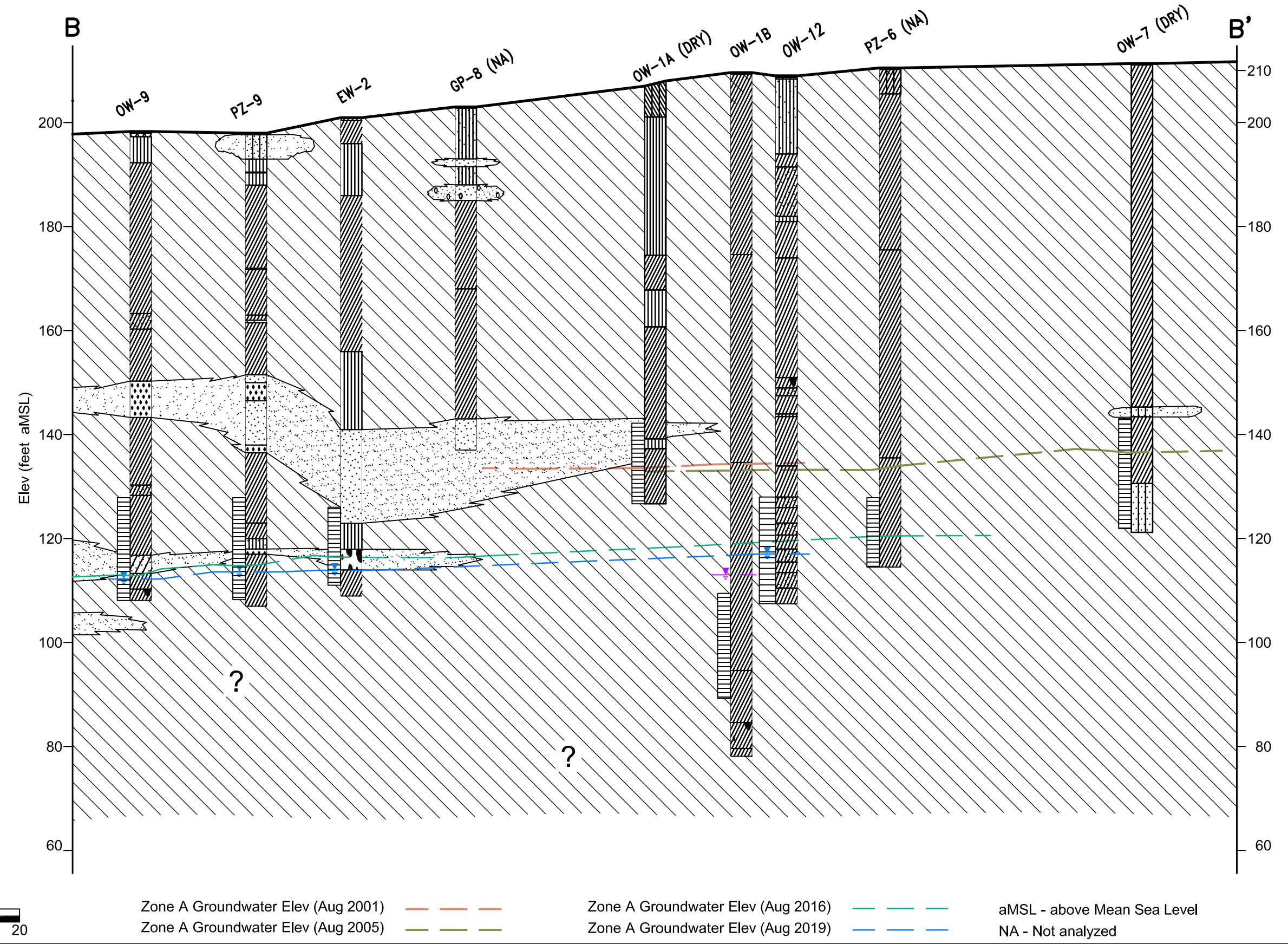


Omega Chemical

Cross-Section Plan View
Figure F-3

**CDM
Smith**





OMEGA
LITHOLOGIC CROSS-SECTION
B TO B'
Figure F-5

Figure F-6
Omega Chemical Superfund Site
OW-1A, OW-1B, and OW-12 Well Hydrographs
2004 to 2019

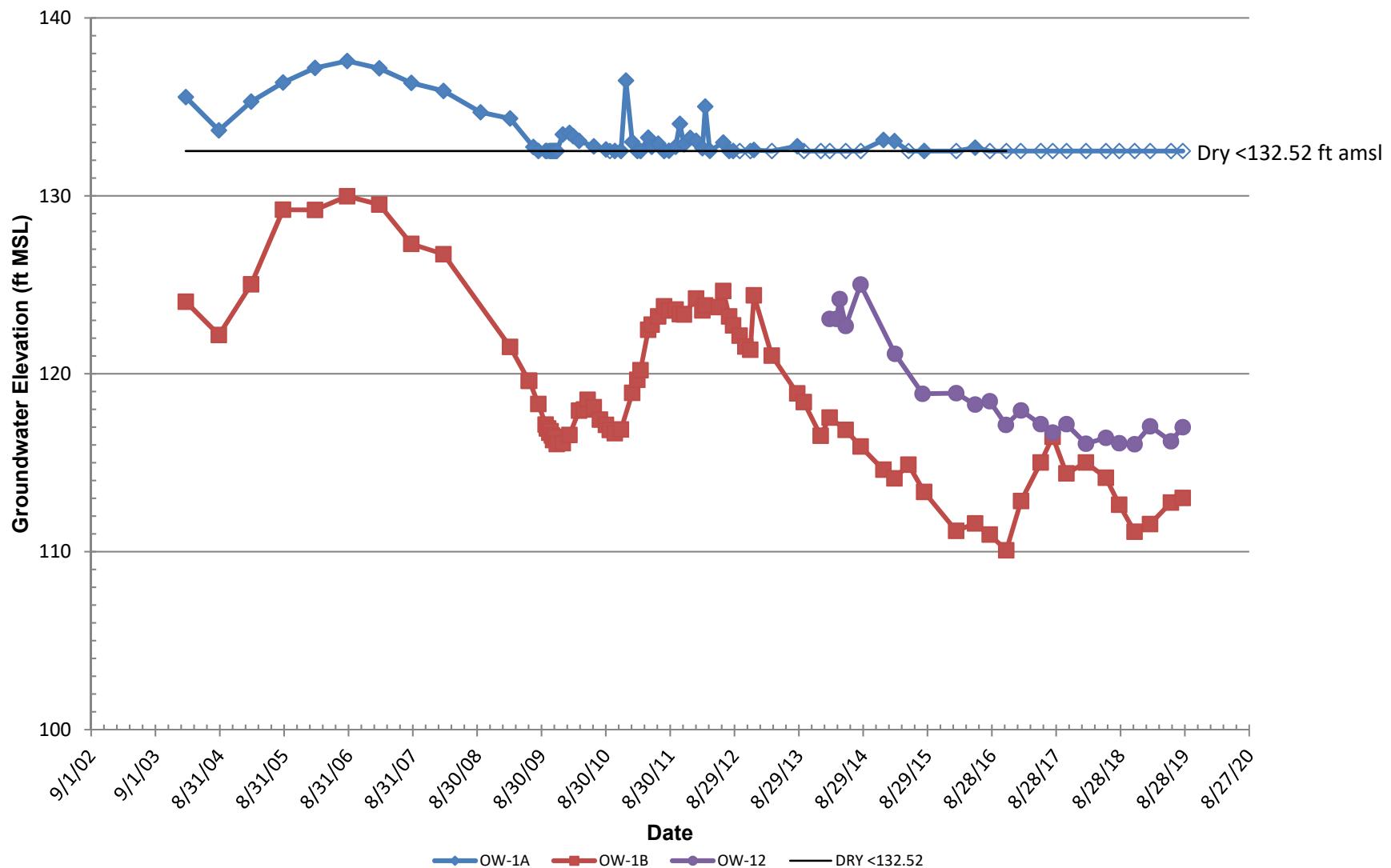


Figure F-7
Omega Chemical Superfund Site
OW-3A and OW-3B Well Hydrographs
2004 to 2019

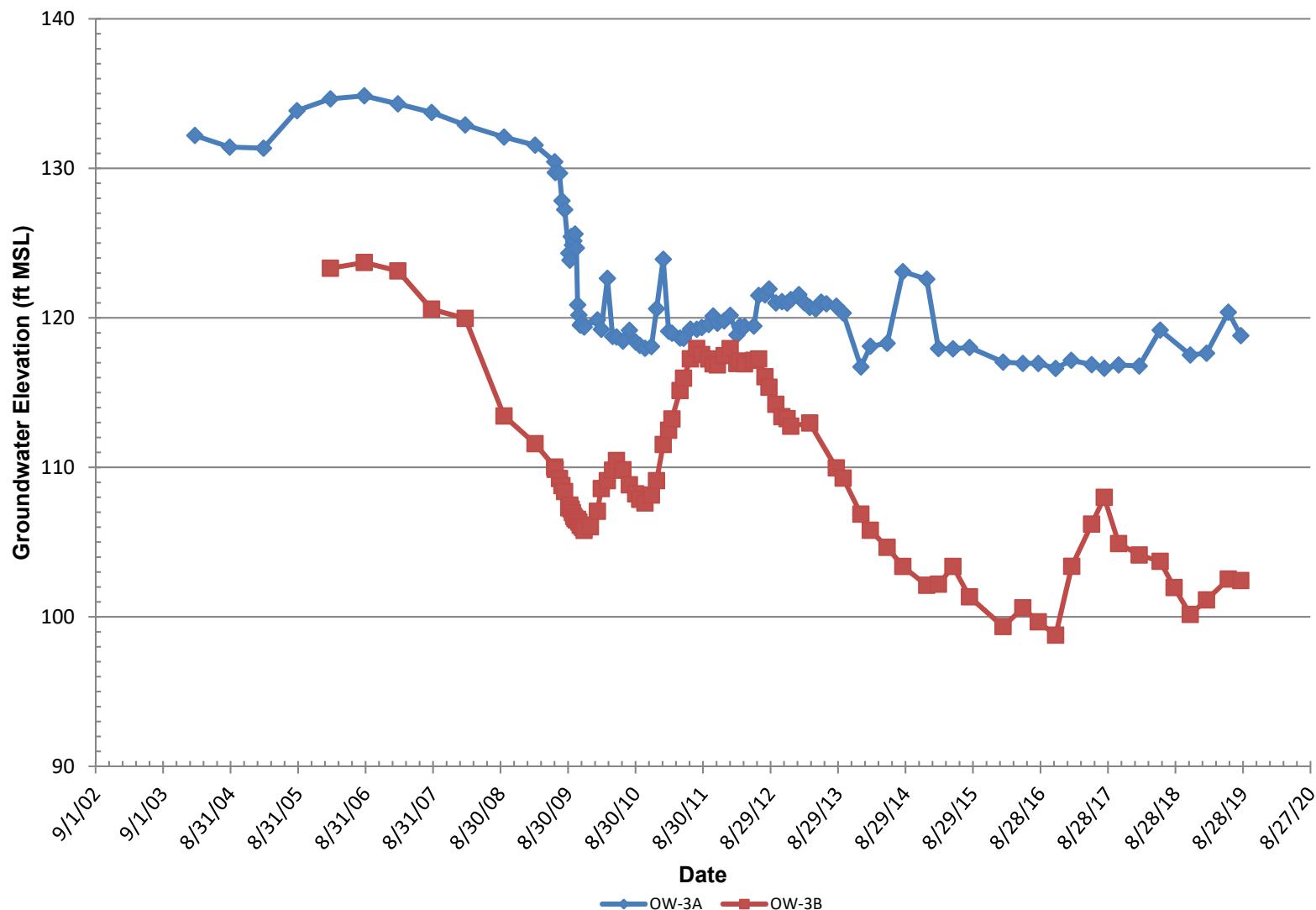
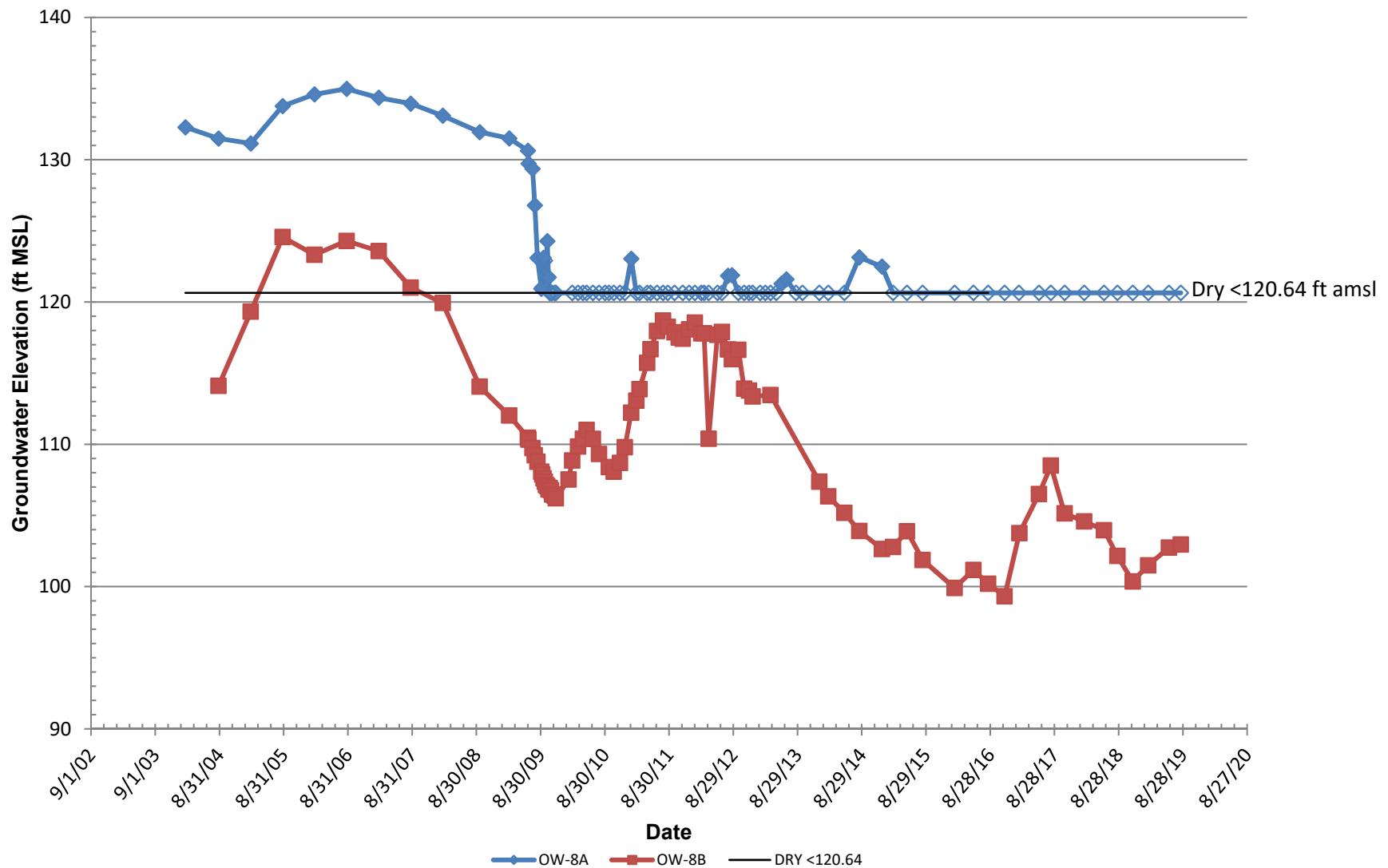


Figure F-8
Omega Chemical Superfund Site
OW-8A and OW-8B Well Hydrographs
2004 to 2019



ATTACHMENT G

Annual Groundwater Model Update and Particle Tracking Figures



Memorandum

To: Ed Modiano – de maximis

From: Matt Gamache, CDM Smith

Date: October 14, 2019

Subject: 2019 Omega Capture Zone Model Update

The purpose for this memorandum is to describe the 2019 updates to the groundwater flow model used to support the site conceptual model (SCM) for hydraulic containment of the OU-1 source area. The model was extended in time one year from 8/21/2018 to 8/16/2019 by incorporating groundwater data collected since the last update, which was documented in the October 12, 2018 technical memorandum titled *2018 Omega Capture Zone Model Update* (CDM Smith, 2018) for the Omega Non-Time Critical Removal Action plan (CDM Smith, 2012). The model was then used to assess hydraulic containment under November 2018, February 2019, June 2019, and August 2019 hydraulic and operating conditions. This memorandum is Attachment G to the Annual Performance Evaluation Report for the OU-1 Groundwater Containment Remedy.

The structure of the model, including the boundaries and computational grid, have remained unchanged since its development and documentation in the 2009 technical memorandum titled *Documentation of the Omega Non-Time Critical Removal Action Capture Zone Model* (CDM, 2009). As stated in the 2009 memo, the objective of the site-specific groundwater model is to evaluate the capture zone achieved by groundwater extraction within Operable Unit 1 (OU-1) or the Phase 1a area. To meet this objective, the model is necessarily larger in size than the Phase 1a area and includes data collected from outside of the Phase 1a area. As described in the EPA-approved April 19, 2007 Performance Standards Verification Plan for Phase 1a Area Groundwater Treatment System (PSVP), the primary line of evidence to evaluate system performance is hydraulic capture as demonstrated by groundwater elevation monitoring. This numerical model is used to provide supporting evidence that the groundwater elevation maps drawn from collected piezometric data accurately represent site hydraulic conditions.

The parameters updated to extend the simulation in time (but not revised for periods prior to 8/21/2018) include the chronological period of the model (extended through 8/16/2019), the number of stress periods, extraction well pumping rates, boundary head conditions, and rainfall recharge. Hydraulic conductivities assigned to the model in the vicinity of VE-10D, which are depicted in Figure 1, were updated to provide a better calibration at VE-10D, where data from the extension period are indicative of lower horizontal hydraulic conductivity than previously

simulated. Calibration was checked by comparing model results to water level data collected during the simulation period.

Simulated and measured heads were compared during the heuristic model calibration process. Figures 2 through 26 include hydrographs comparing the simulated and observed water levels for all wells and Table 1 presents the simulated and measured values (and the simulated minus measured values, or residual values) for these well during the November 14, 2018 synoptic round of water level measurements.

Table 1 – November 2018 Simulated and Measured Water Level Elevations

Well	Simulated Head (Feet NAVD88)	Measured Head (Feet NAVD88)	Residual (Feet)
DPE-03	113.2	114.3	-1.1
DPE-04	111.8	111.1	+0.7
DPE-05	111.7	110.0	+1.7
DPE-08	113.6	113.9	-0.3
DPE-09	112.2	113.1	-0.9
OW-1A	DRY	DRY	-
OW-2	DRY	DRY	-
OW-3A	115.7	117.5	-1.8
OW-4A	DRY	DRY	-
OW-7	DRY	DRY	-
OW-9	111.5	112.7	-1.2
OW-10	115.5	116.9	-1.4
OW-11	110.7	113.2	-2.5
OW-12	113.9	116.0	-2.1
PZ-1	112.9	113.2	-0.3
PZ-2	DRY	DRY	-
PZ-3	DRY	DRY	-
PZ-4	118.5	123.4	-4.9
PZ-5	NM	NM	-
PZ-6	NM	NM	-
PZ-7	NM	NM	-
PZ-8	NM	NM	-
PZ-9	112.6	113.3	-0.6
VE-10D	105.1	104.7	+0.4
VE-7D	107.7	107.4	+0.3

Rainfall recharge applied to the water table in the model was varied with time according to hydrologic conditions and the observed lag times and general head boundary (GHB) heads were modulated based on water level elevations observed at OW-7, with the associated hydraulic conductances of each GHB cell held at the originally interpolated value. Rainfall recharge was

set to 1.5 inches per year from the beginning of the simulation through 9/30/2010, then 6 inches per year for the wet period through 2/28/2013, then 0.4 inches per year through 8/16/2016, then 1.1 inches per year through 2/10/2019, then 4.2 inches per year through 8/16/2019.

Figure 27 includes a scatter plot of observed (horizontal axis) and simulated (vertical axis) heads at the observation wells, piezometers, and DPE wells used during calibration. Deviation from the 45-degree line (shown as a red line) indicates model bias either low or high as compared to observed water levels. The root mean square error (RMS), which is the average of the squared differences in measured and simulated heads, is 1.9 feet, or 6.5% of the range of observed values. In general, the RMS should be less than 10% of the observed head range (Anderson and Woessner, 1992). Hence, model calibration is considered to be reasonable and appropriate.

Other calibration statistics are listed below:

- Mean Error (ME) = +0.04 feet; this is the mean difference between measured and simulated heads.
- Mean Absolute Error (MAE) = +1.4 feet; this is the mean of the absolute value of the differences in measured and simulated heads.
- Minimum Residual = -7.6 feet
- Maximum Residual = 7.3 feet

The model calibration fits the field data within acceptable criteria and is useable for assessment of the system capture zone.

Simulated flow direction arrows and head contours for November 2018, February 2019, June 2019, and August 2019 are shown in Figures 28 through 31, respectively, along with the associated simulated zone of capture by the groundwater containment remedy (GCR) and OU-1 on-site soil remedy wells. Each zone of capture represents the water that would be captured by the GCR and on-site soil remedy wells if the period (i.e., June 2019) conditions were held constant into perpetuity. Tables 2 and 3 below show the pumping rates of GCR wells and on-site soil remedy wells that were used to simulate flow patterns during each of the four quarters evaluated. Figure 32 shows the November 2018 simulated head contours along with posted head residuals (simulated head minus measure head for each well in feet), which are also included in Table 1. All of the zones of capture shown in Figures 28 through 31 cover the area between Putnam Street and the source are on the Omega property.

These simulated capture zones and water level contours are similar to those produced in previous annual reports and support the site conceptual model (SCM) for hydraulic containment of the OU-1 source area. These results also supplement the analyses provided in Attachment A and previous quarterly groundwater containment reviews in which groundwater

elevation data is contoured (without model simulations) for the purposes of demonstrating hydraulic containment of groundwater within OU-1.

Table 2 - GCR Pumping Rates

Well	November 2018 (gpm)	February 2019 (gpm)	June 2019 (gpm)	August 2019 (gpm)
EW-1	0.00	0.00	0.00	0.00
EW-2	0.00	0.00	0.00	0.00
EW-3	0.00	0.00	0.07	0.04
EW-4	0.03	0.00	0.11	0.03
EW-5	0.09	0.61	0.15	0.10
Total	0.13	0.61	0.32	0.17

Table 3 - OU-1 On-Site Soil Remedy Well Pumping Rates

Well	November 2018 (gpm)	February 2019 (gpm)	June 2019 (gpm)	August 2019 (gpm)
DPE-3	0.36	0.46	0.62	0.71
DPE-4	0.45	0.54	0.20	0.23
DPE-5	0.35	0.45	0.28	0.42
DPE-8	0.23	0.33	0.21	0.36
DPE-9	0.00	1.19	1.28	1.60
VE-7D	0.94	0.73	0.46	0.57
VE-10D	1.82	1.60	1.40	1.51
Total	4.14	5.29	4.45	5.40

References

Anderson, M.P. and Woessner, W.M., 1992. *Applied Groundwater Modeling*, Academic Press, Inc., San Diego, California, 381 p.

CDM, 2007. *Performance Standards Verification Plan for Phase 1a Area Groundwater Treatment System*. April 19, 2007.

CDM, 2009. *Documentation of the Omega Non-Time Critical Removal Action Capture Zone Model*. September 14, 2009.

CDM Smith, 2012. *Omega Capture Zone Model Update*. June 1, 2012.

CDM Smith, 2018. *2018 Omega Capture Zone Model Update*. October 12, 2018.

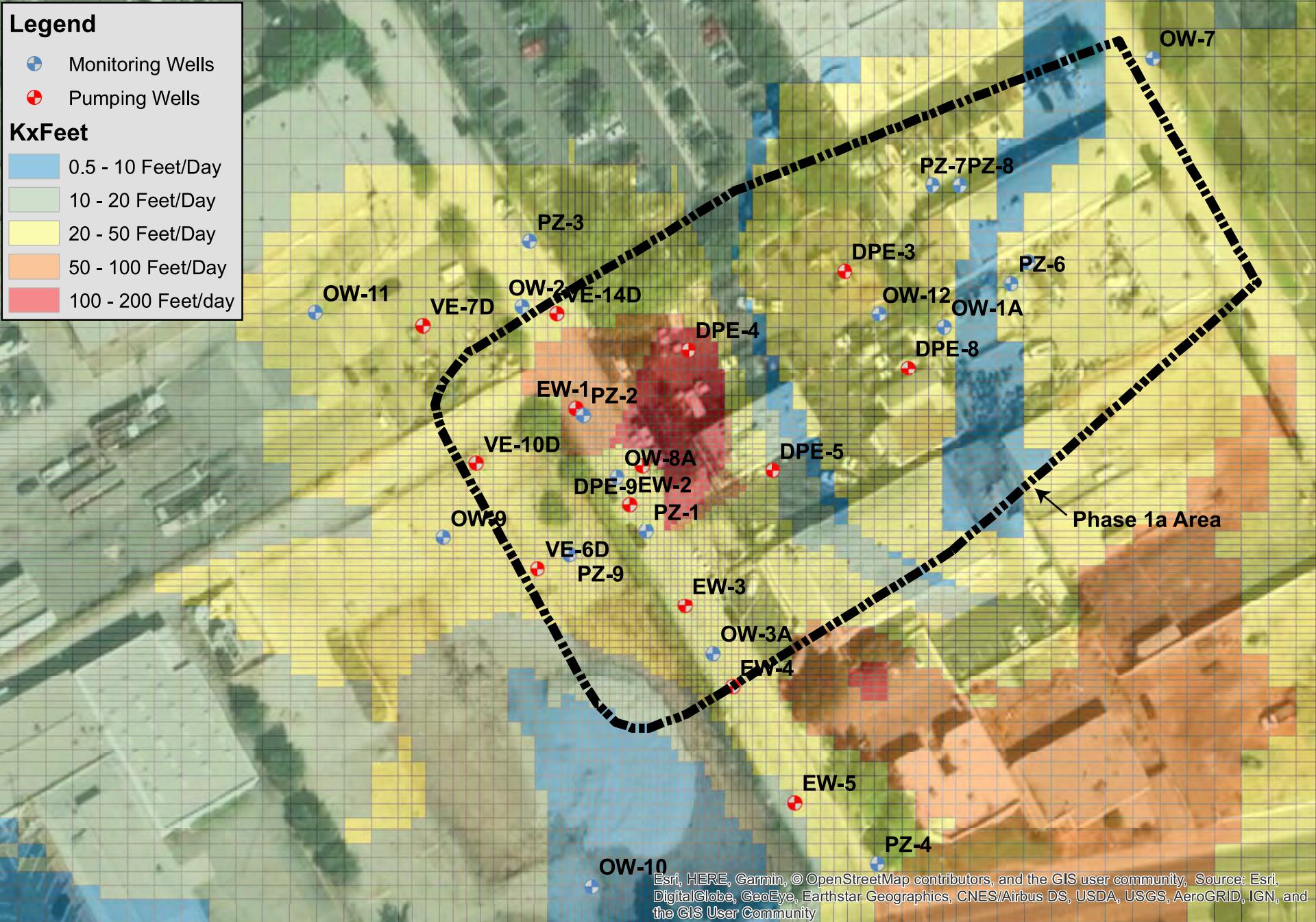


Figure 2
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-2

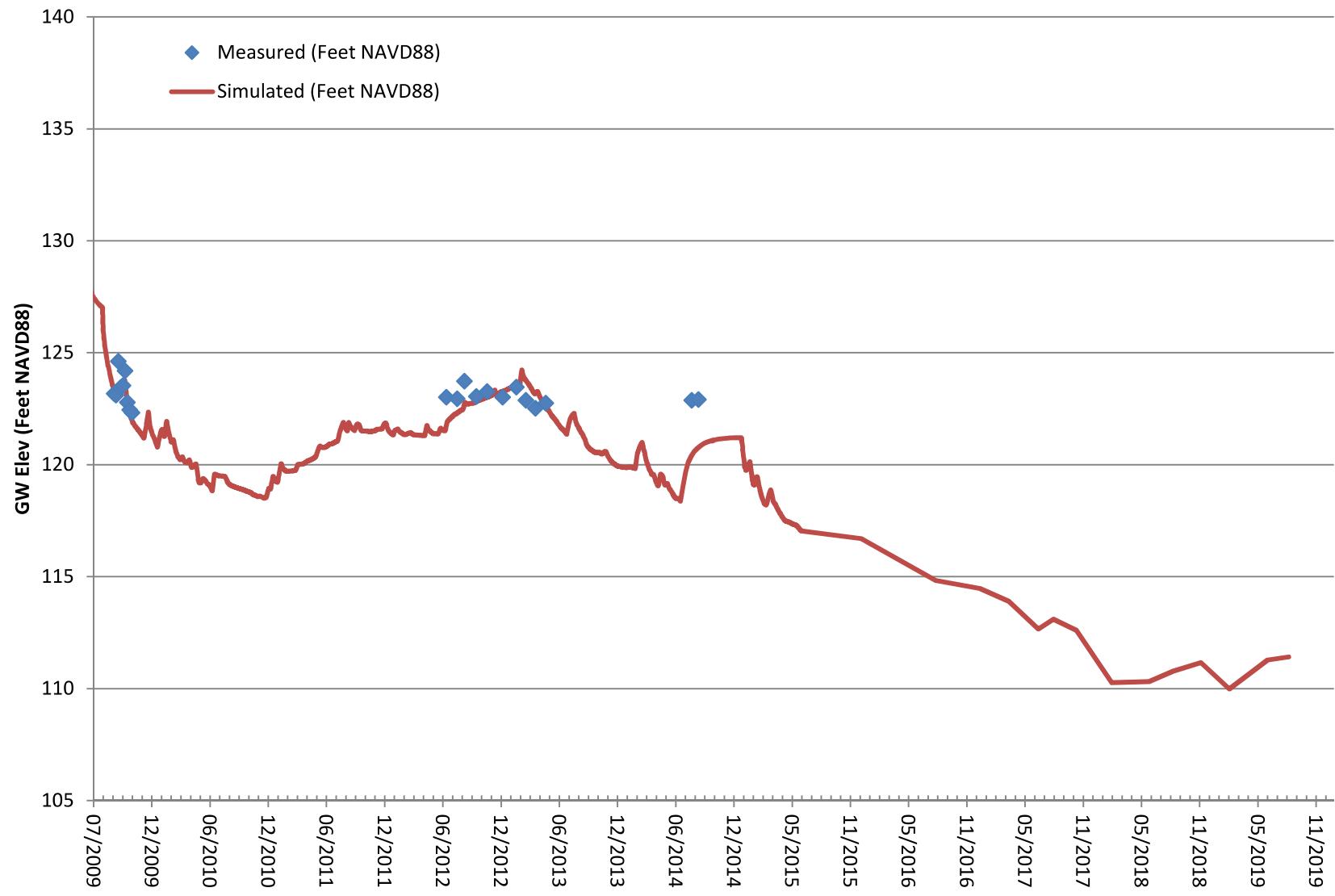


Figure 3
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-3

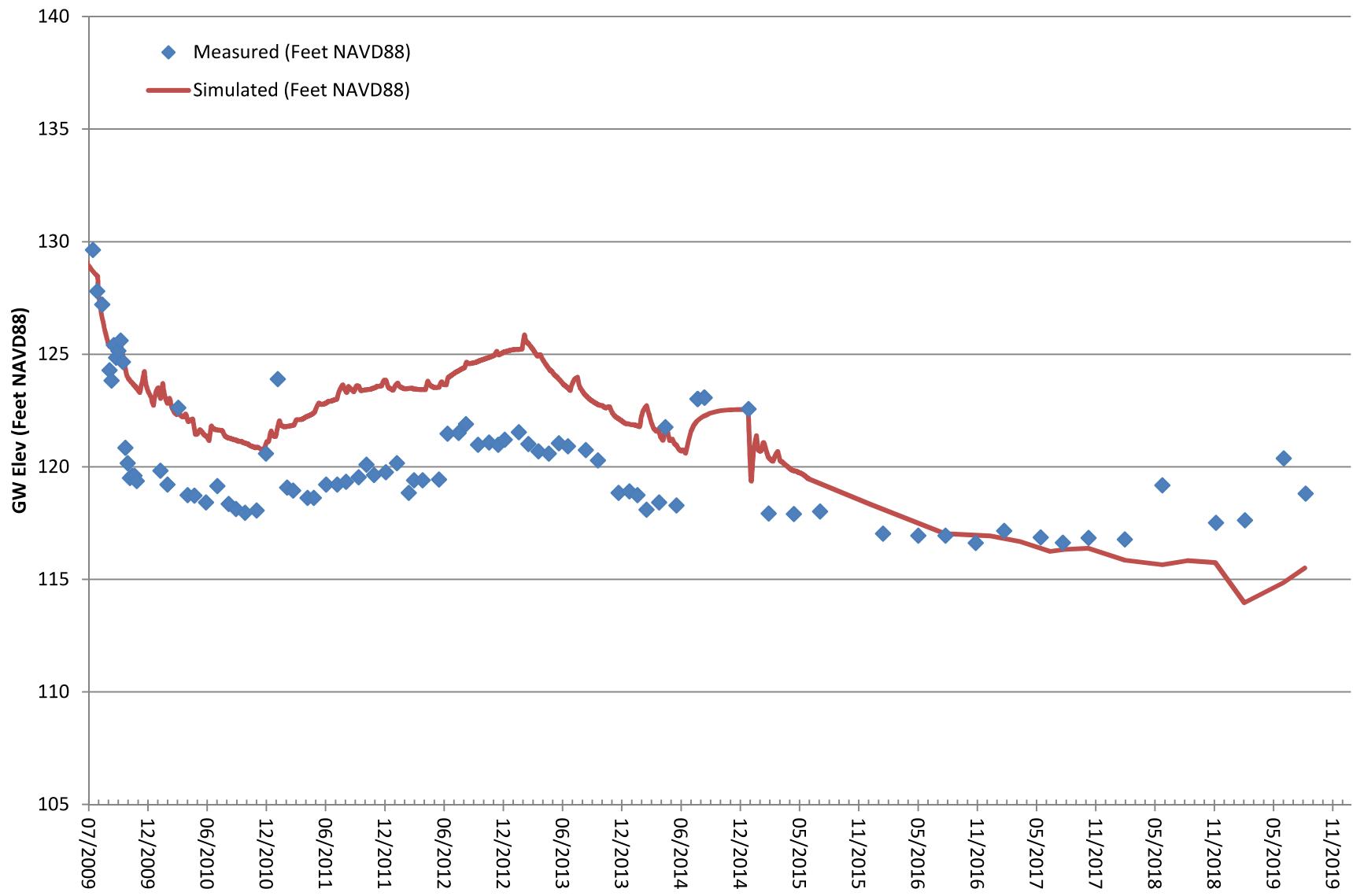


Figure 4
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-4a

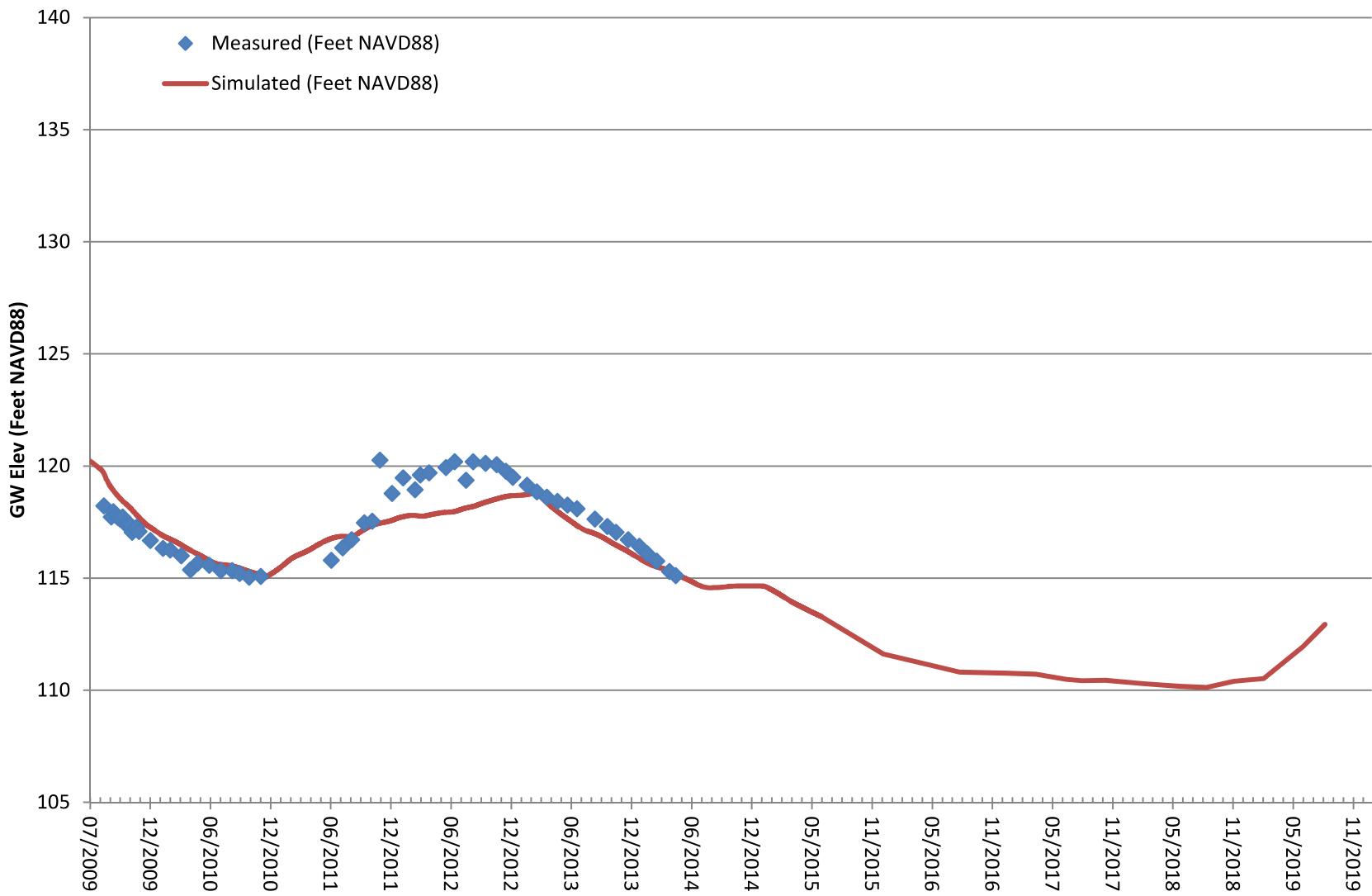


Figure 5
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-7

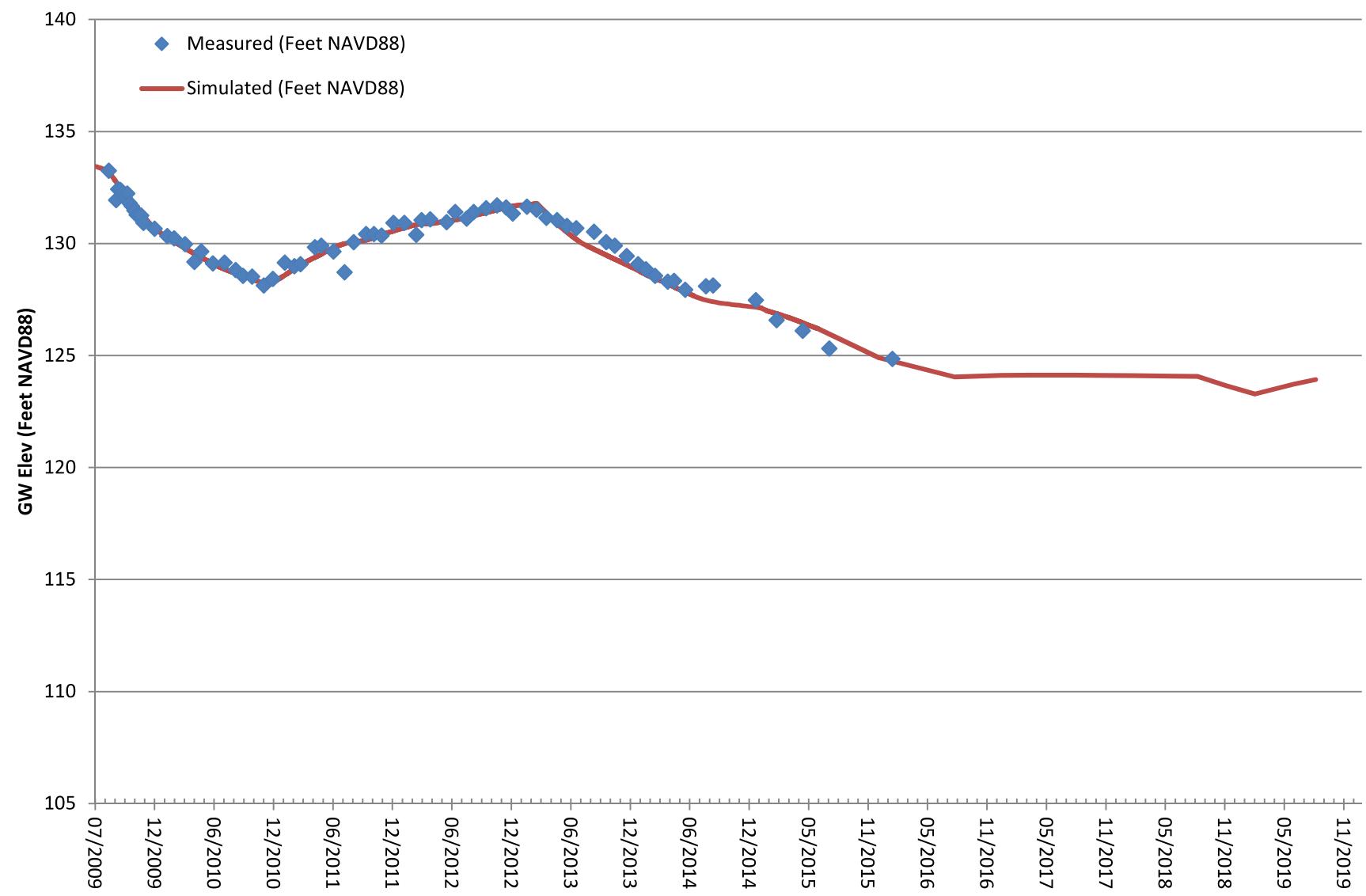


Figure 6
Omega Chemical Facility
Capture Zone Model, Observed vs. Simulated Heads
OW-8a

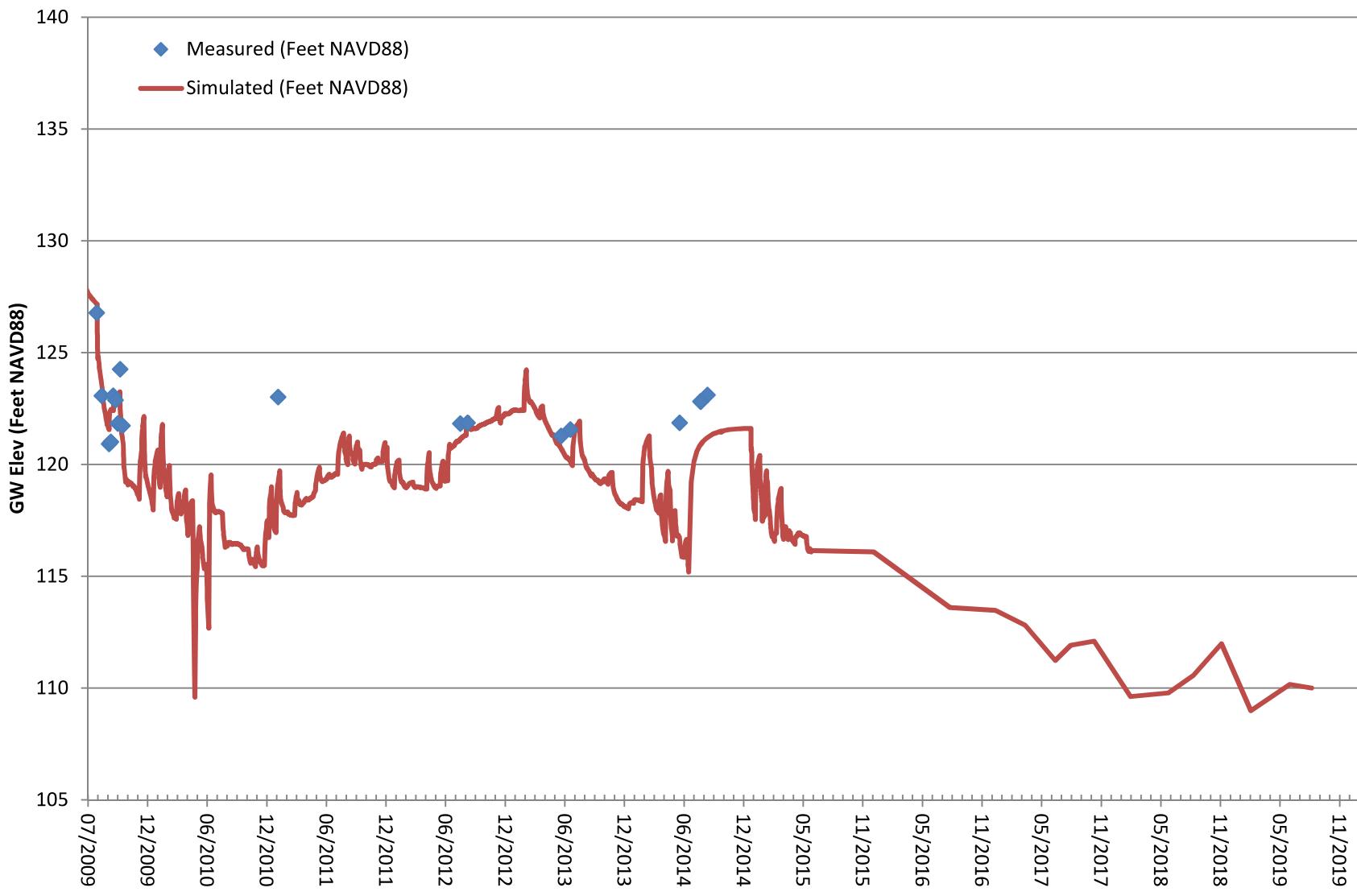


Figure 7
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-9

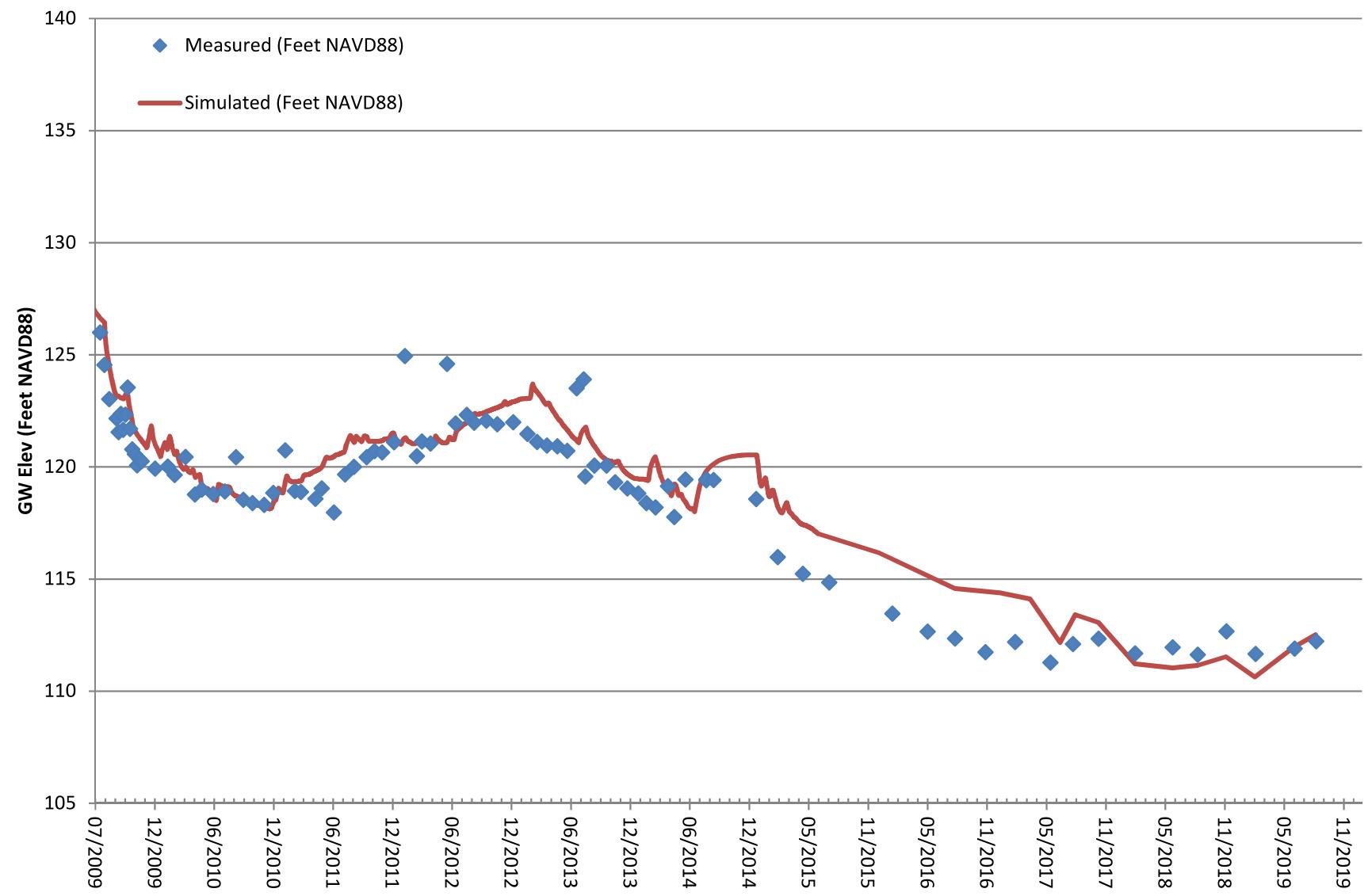


Figure 8
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-10

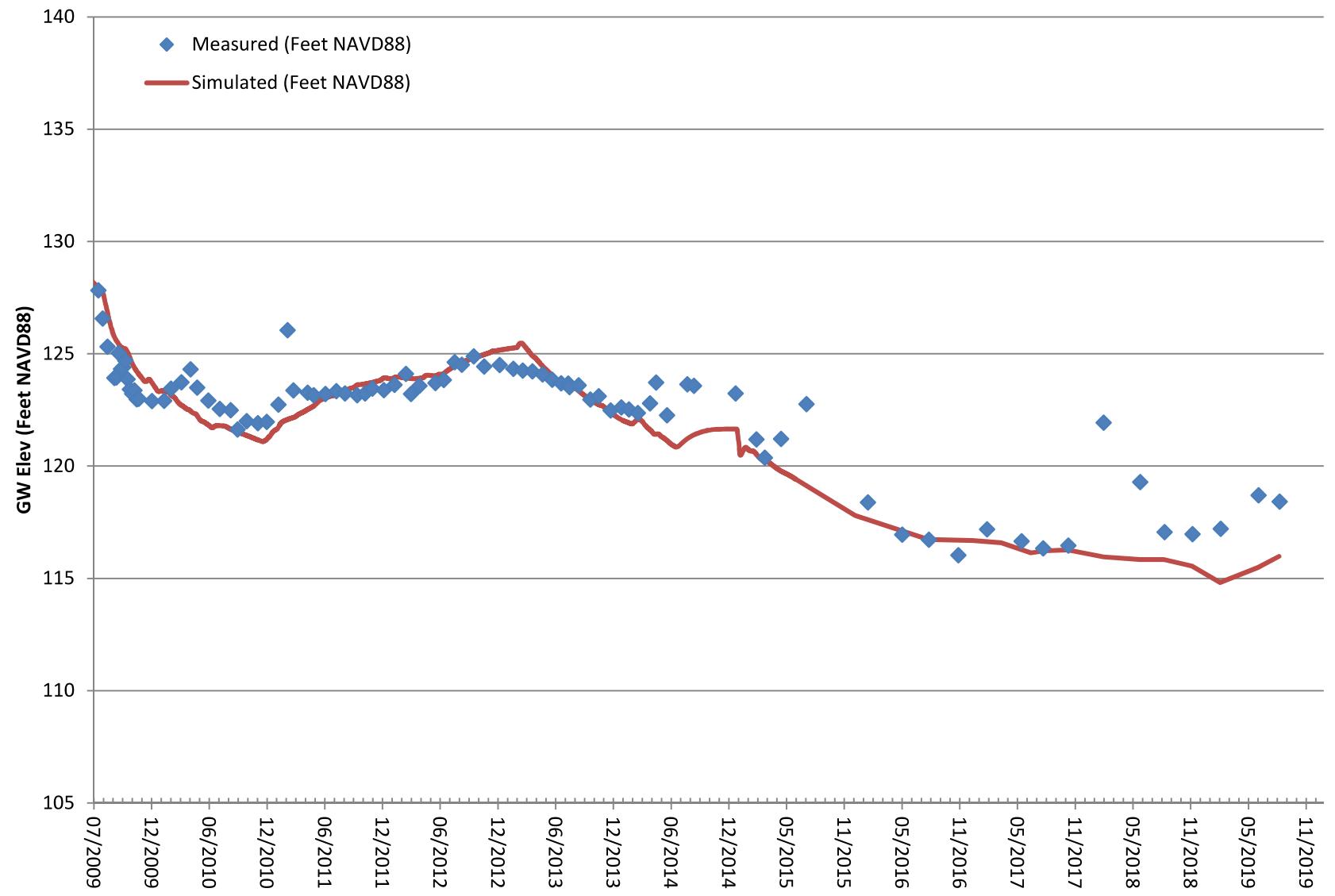


Figure 9
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-11

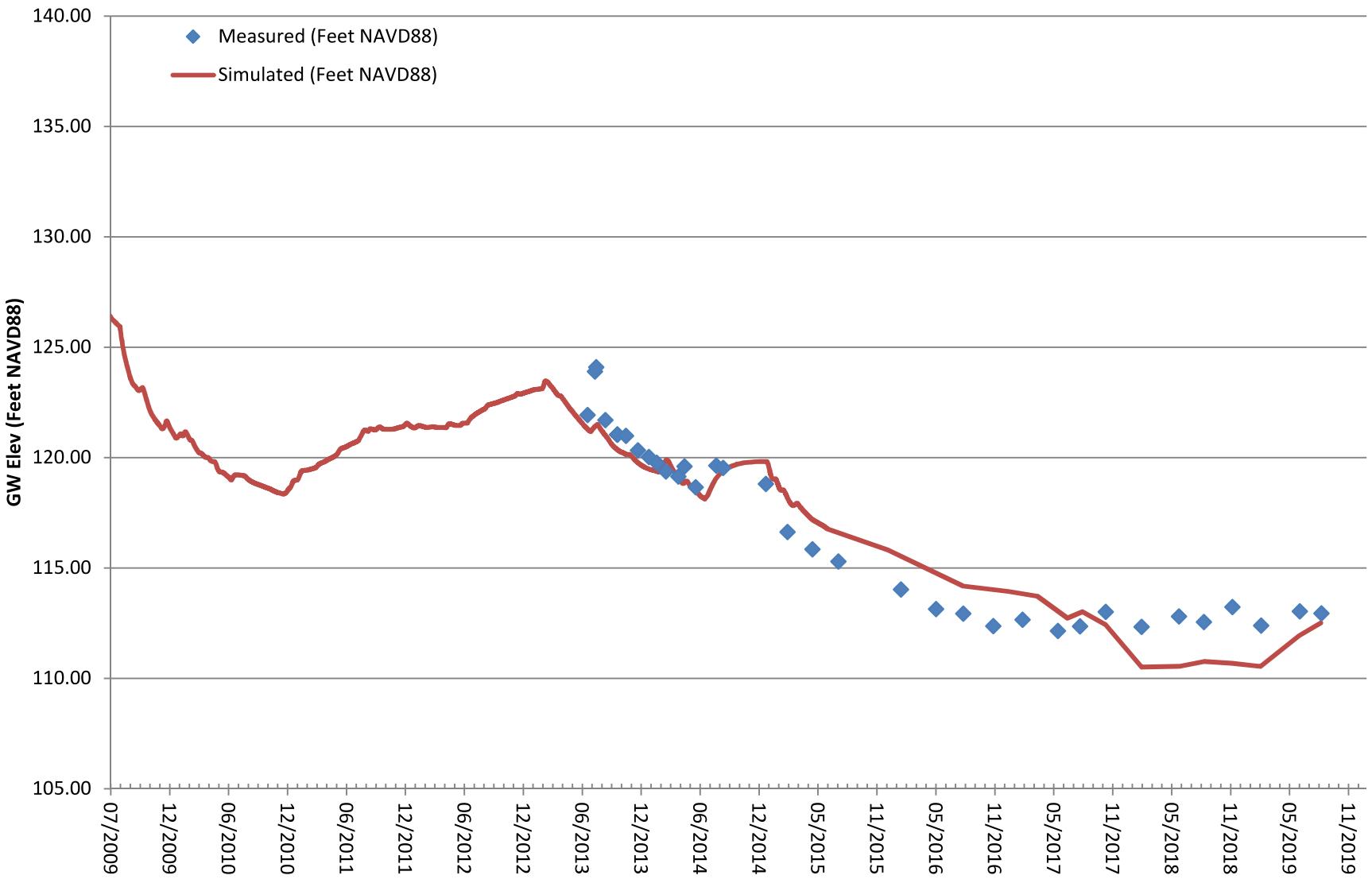


Figure 10
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
OW-12

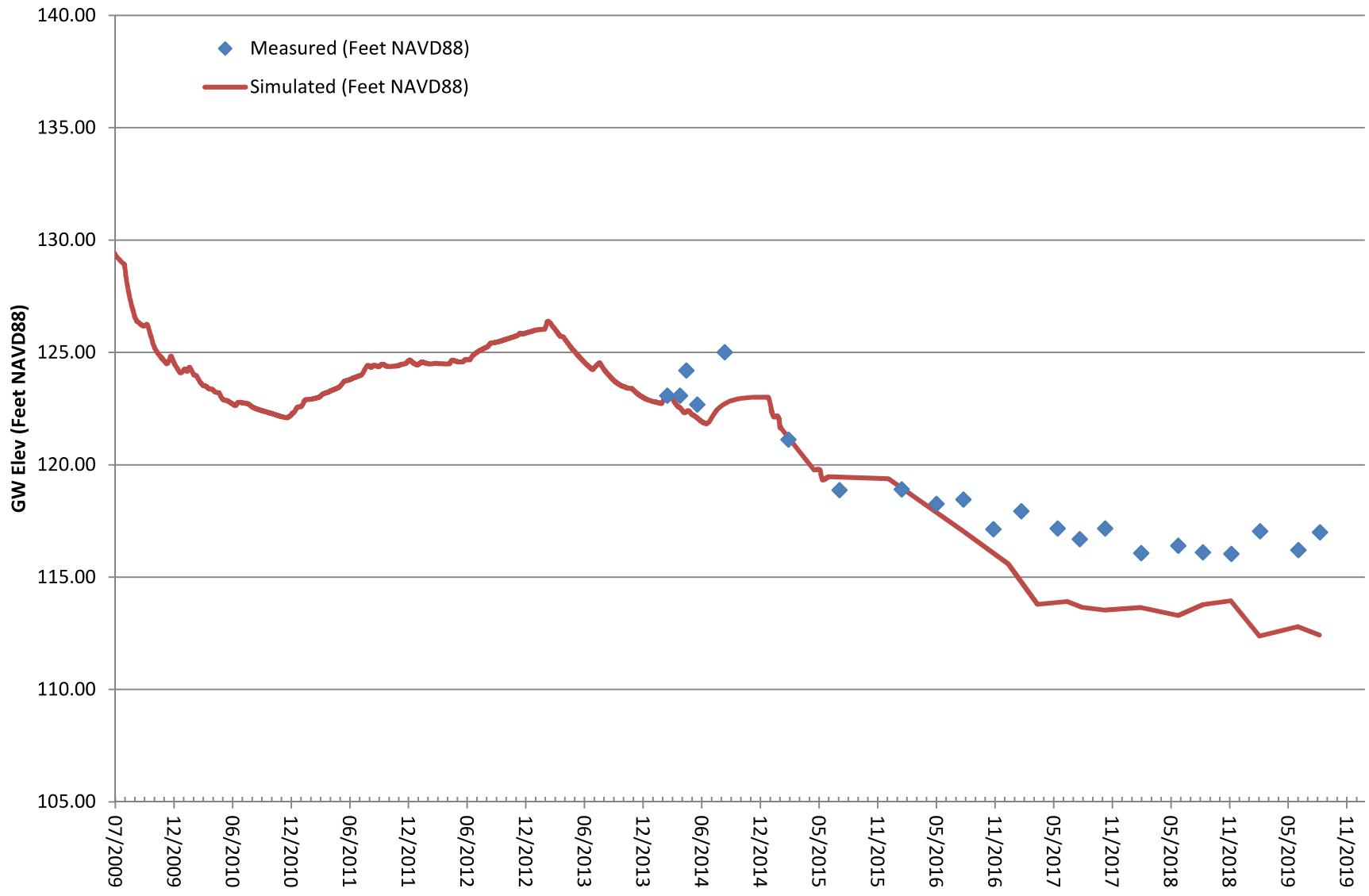


Figure 11
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-1

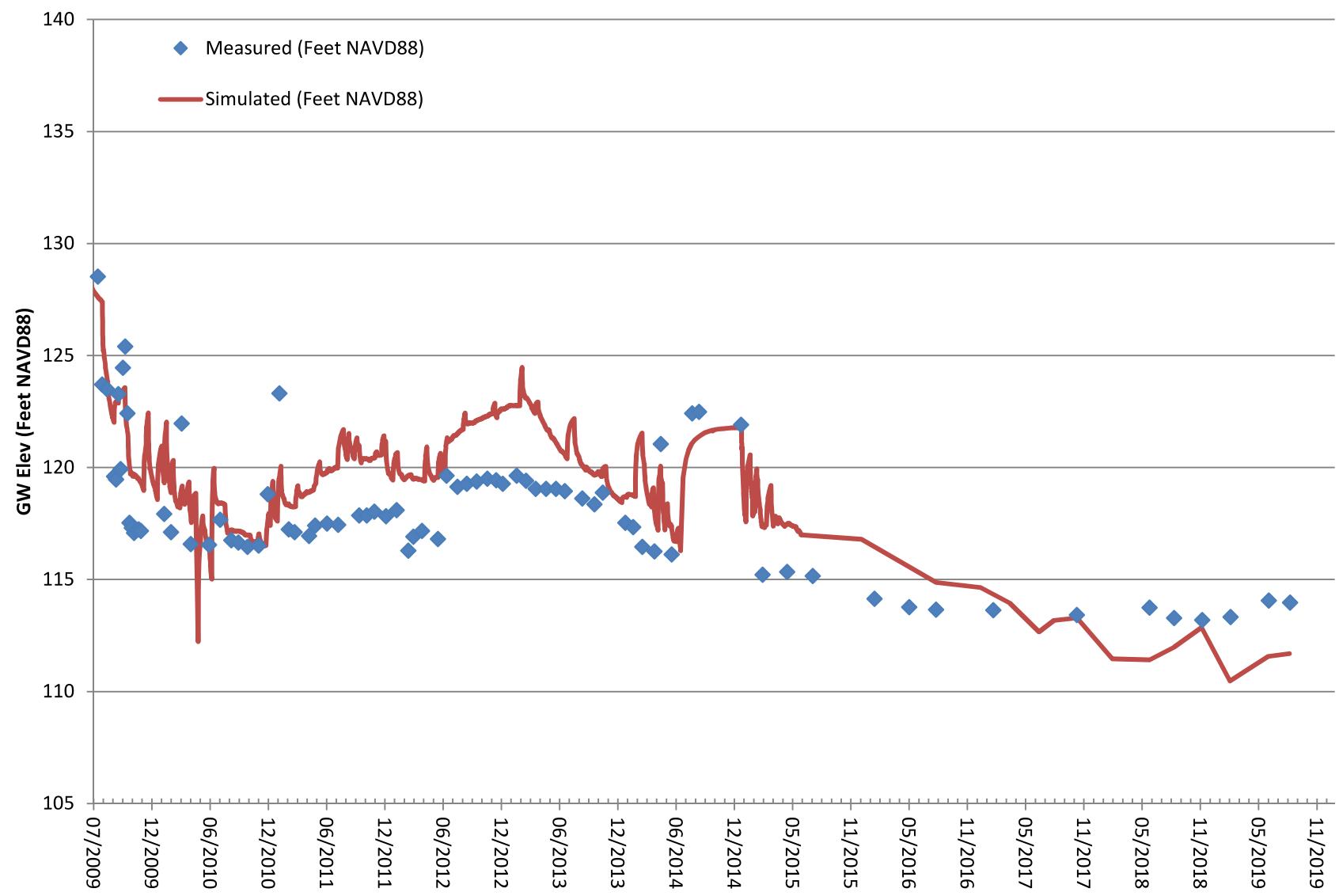


Figure 12
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-2

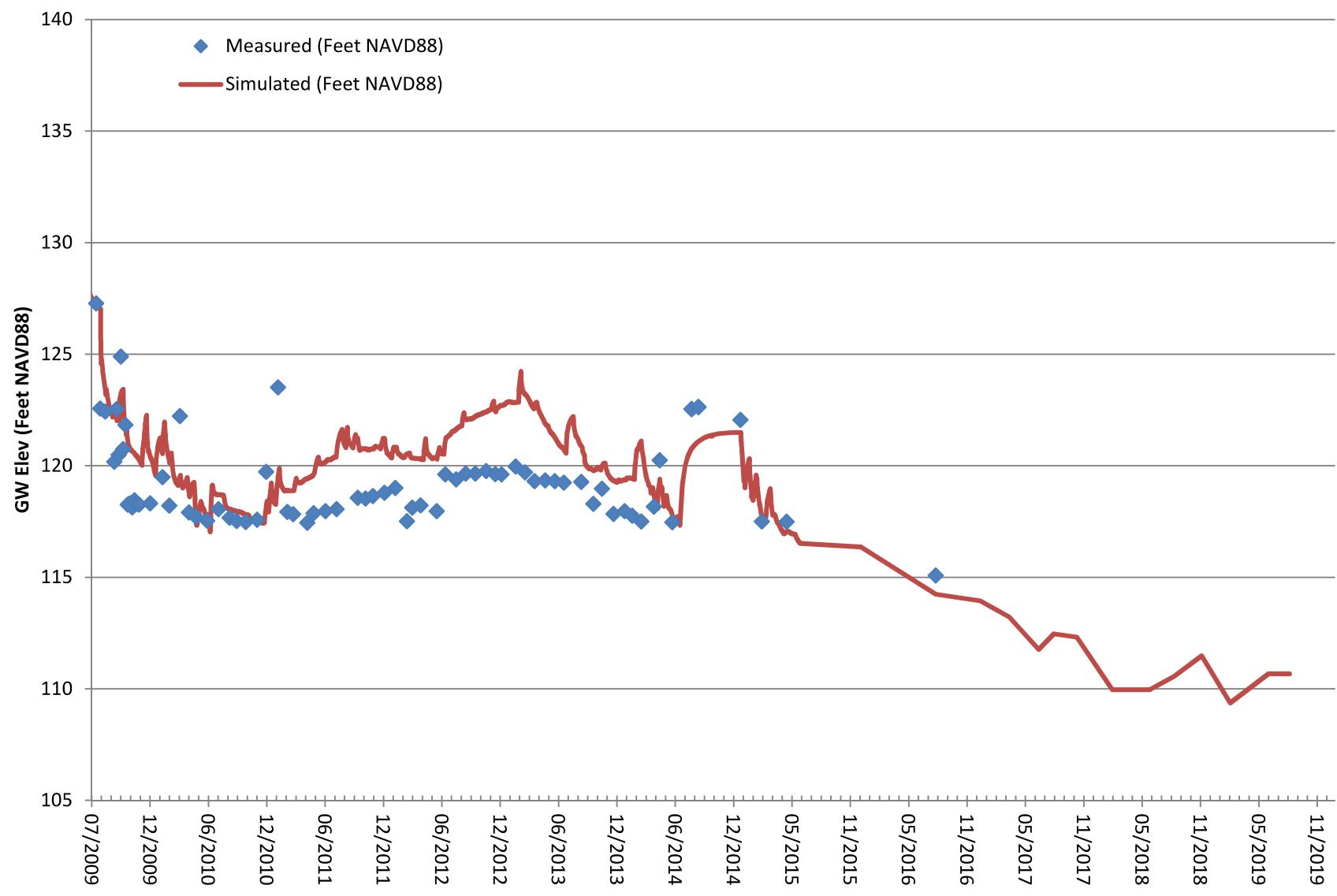


Figure 13
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-3

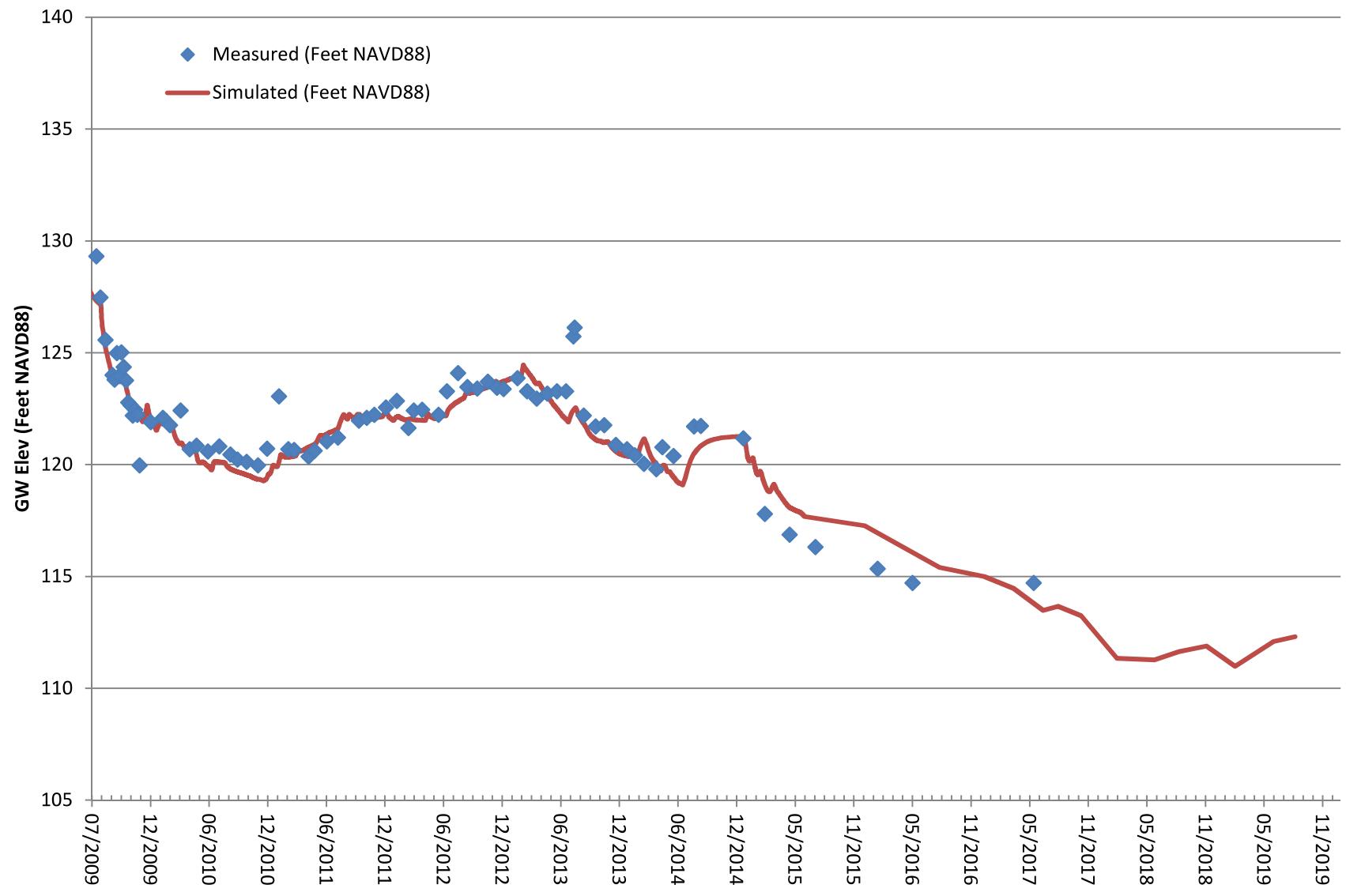


Figure 14
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-4

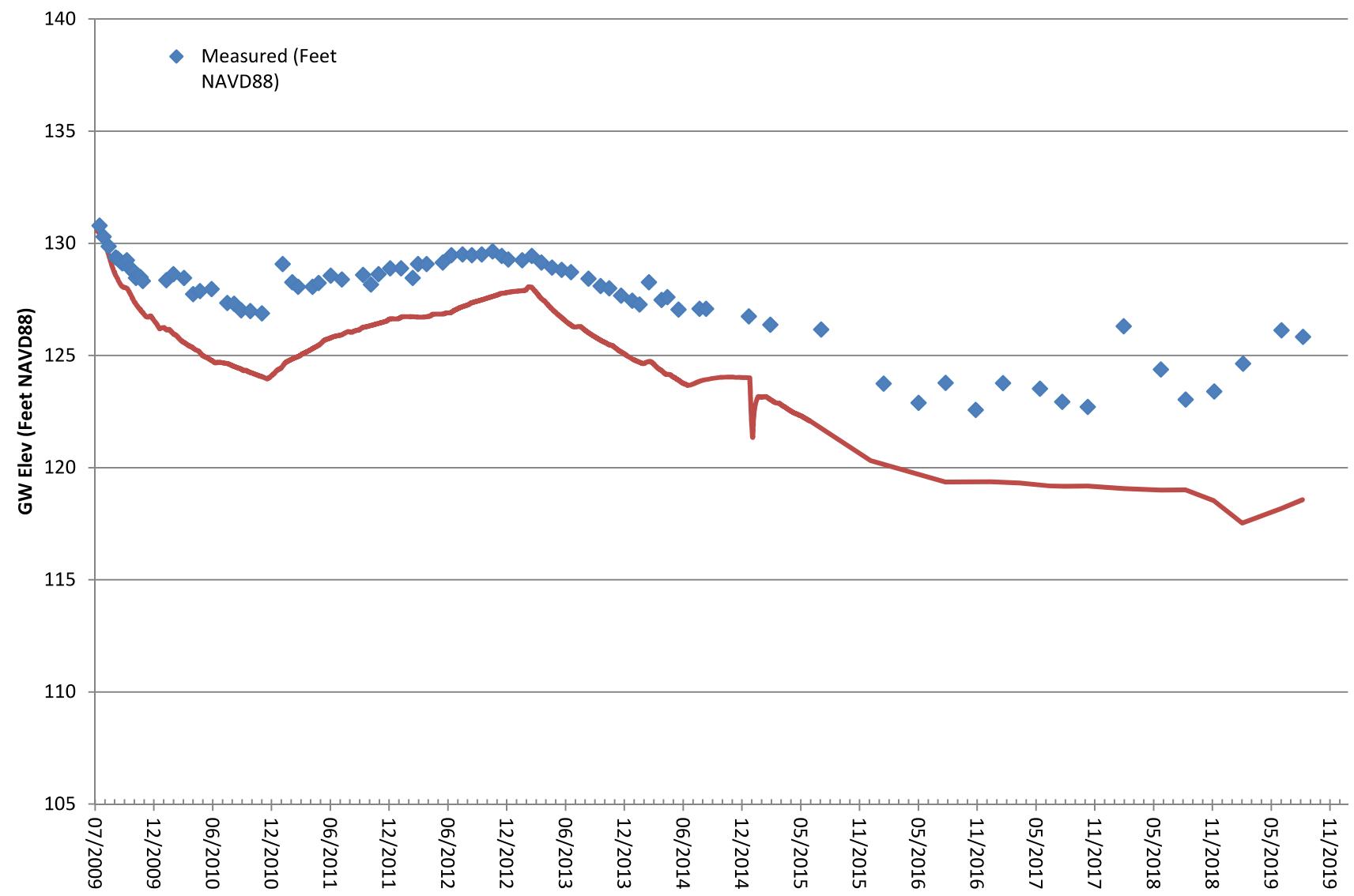


Figure 15
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-5

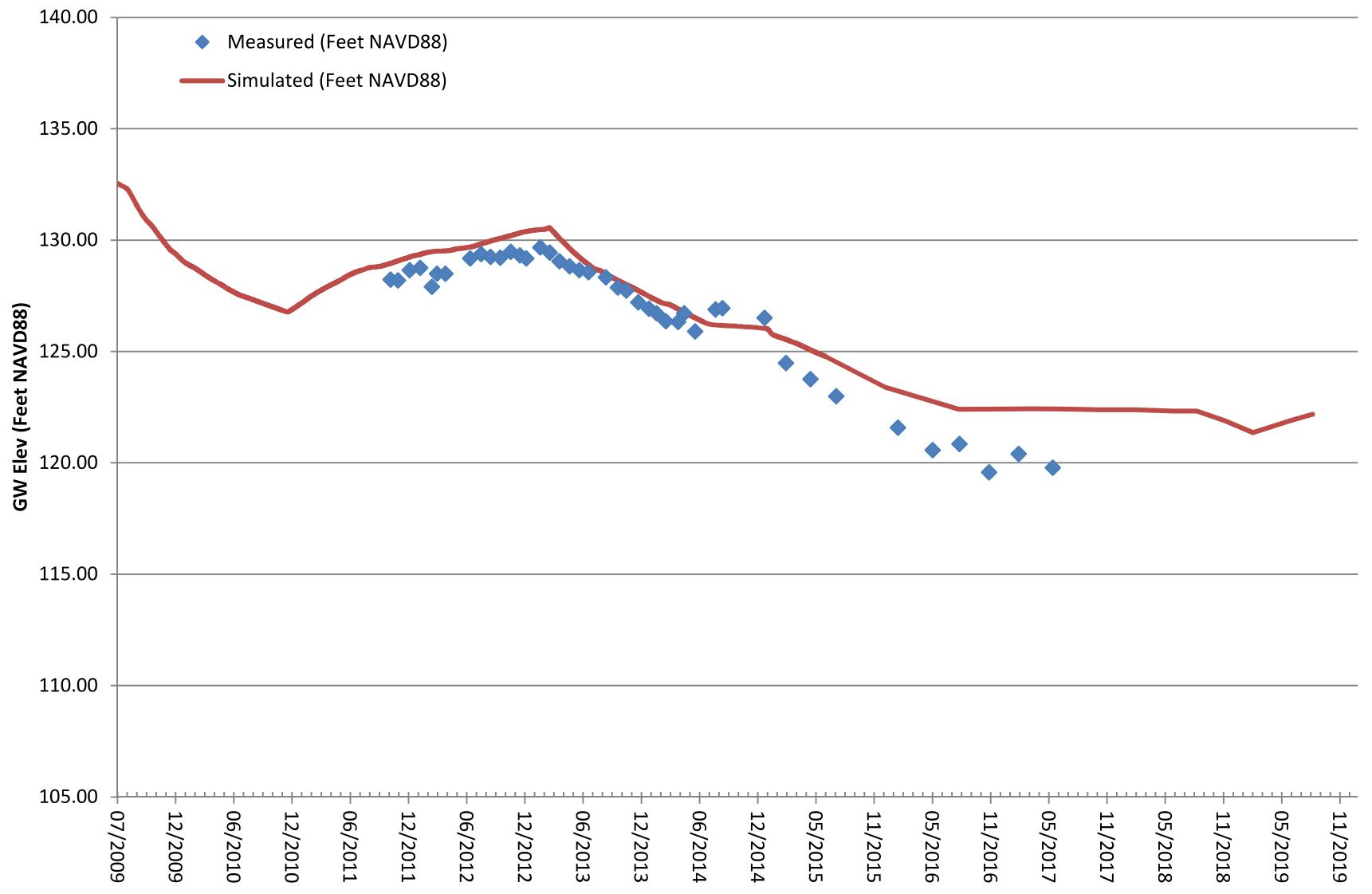


Figure 16
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-6

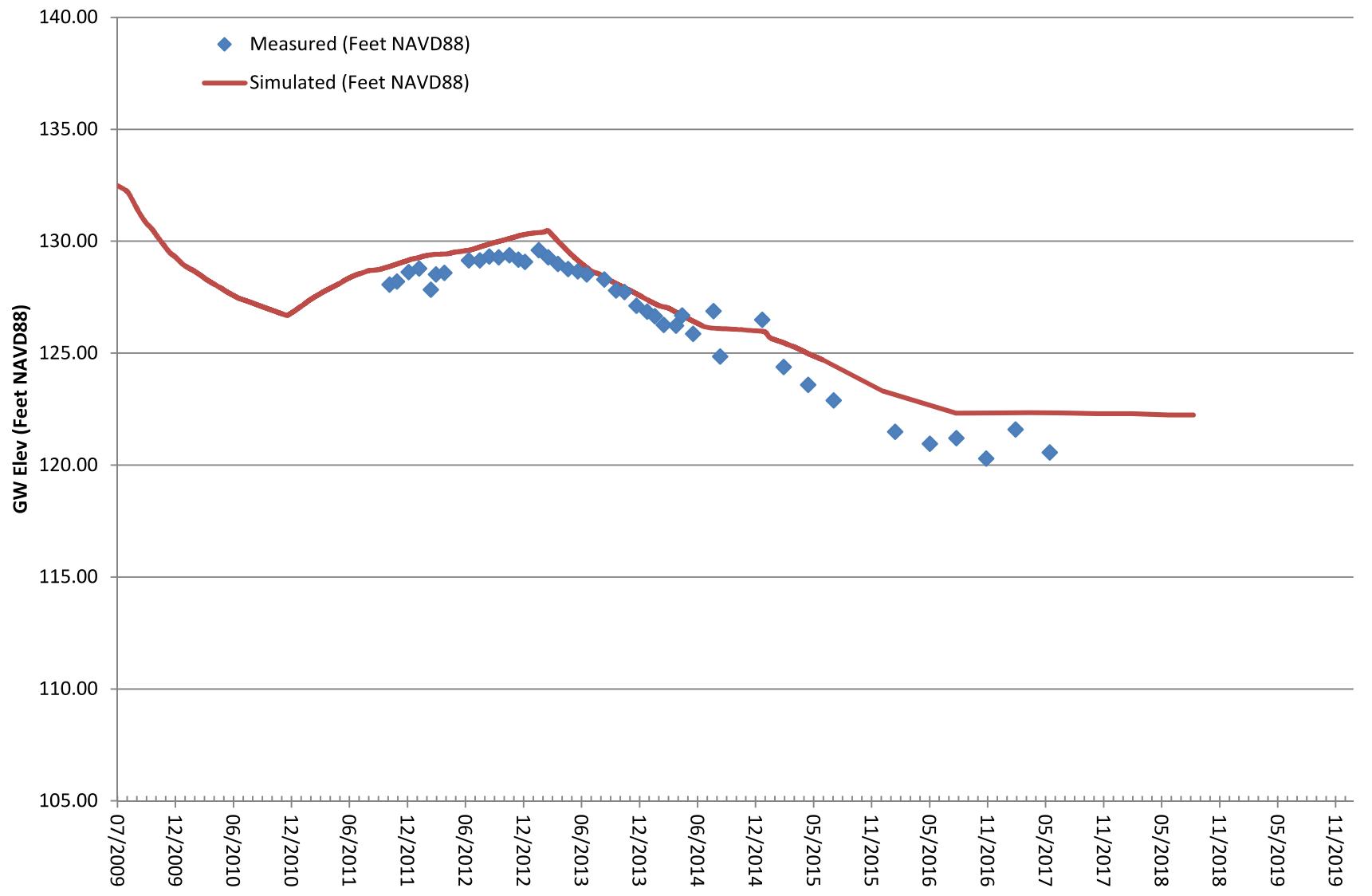


Figure 17
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-7

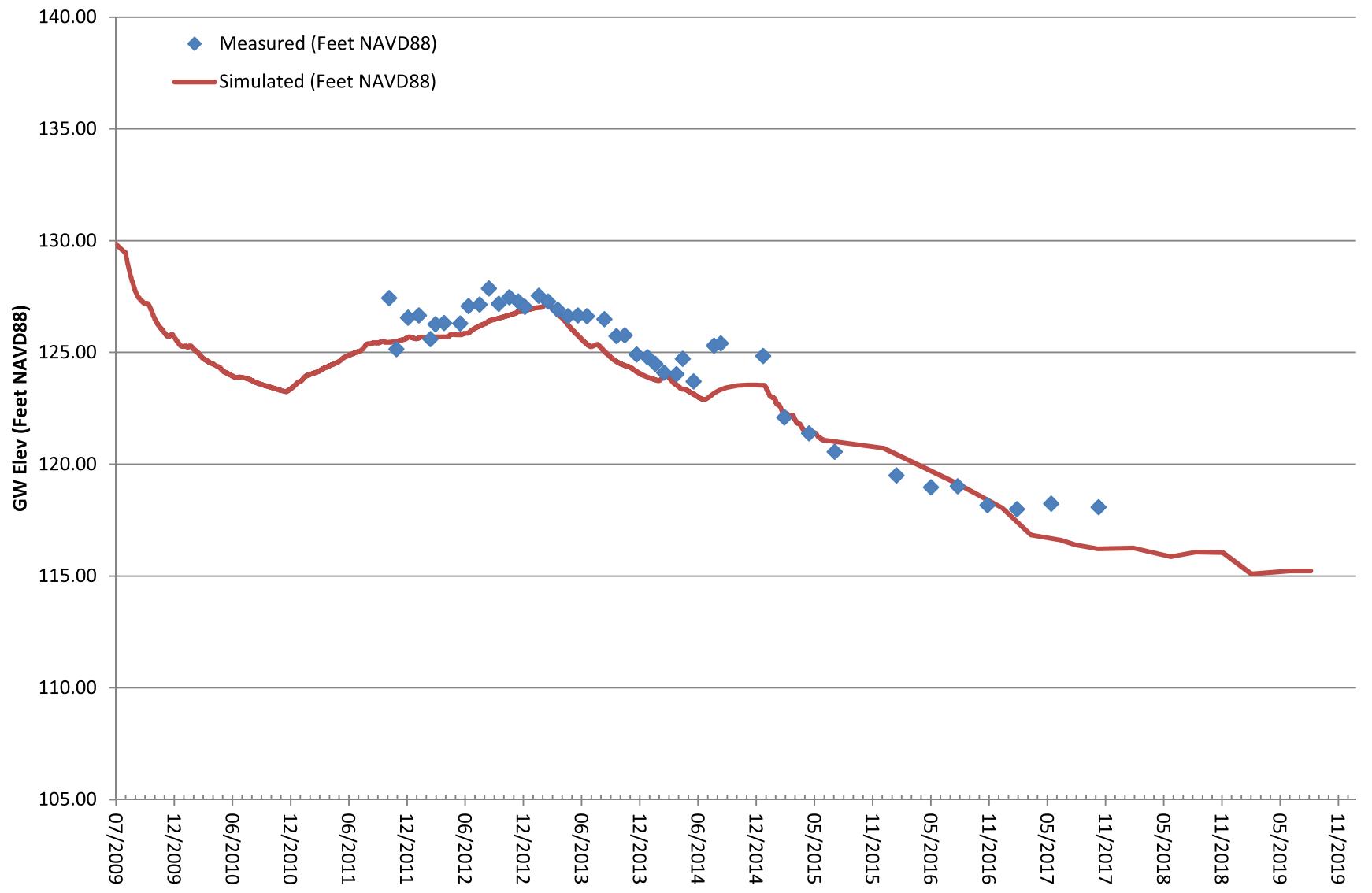


Figure 18
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-8

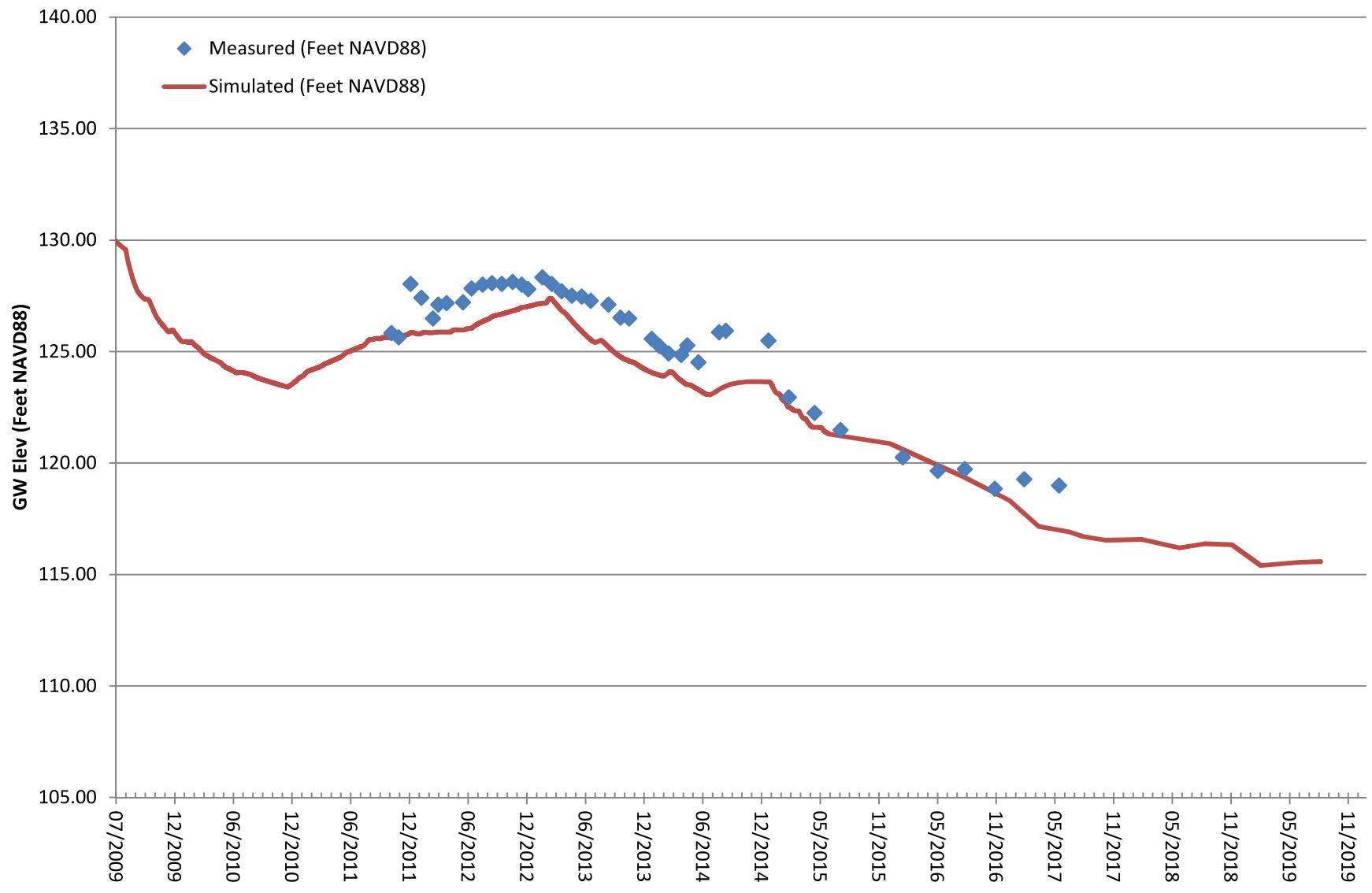


Figure 19
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
PZ-9

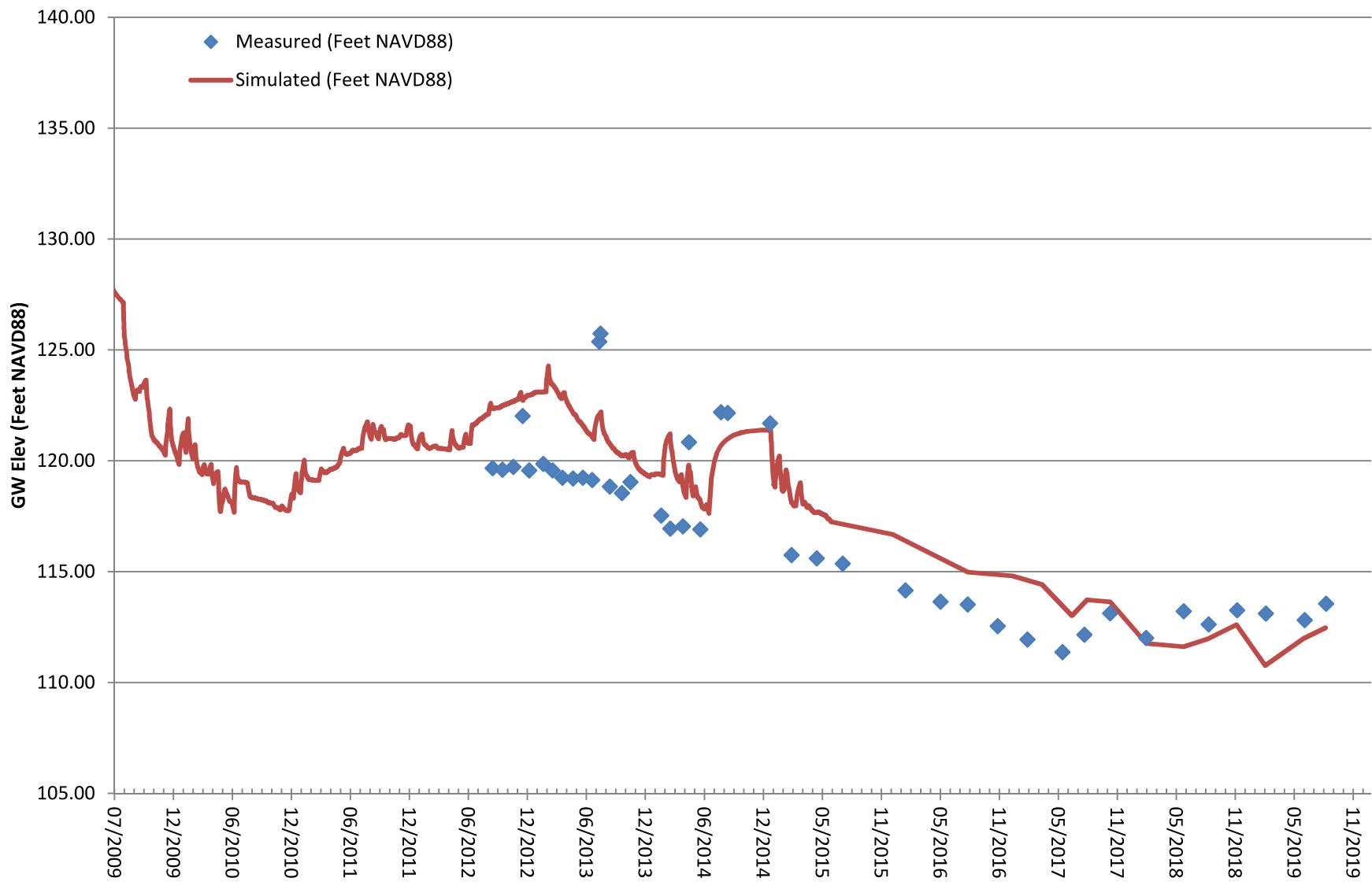


Figure 20
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
DPE-3

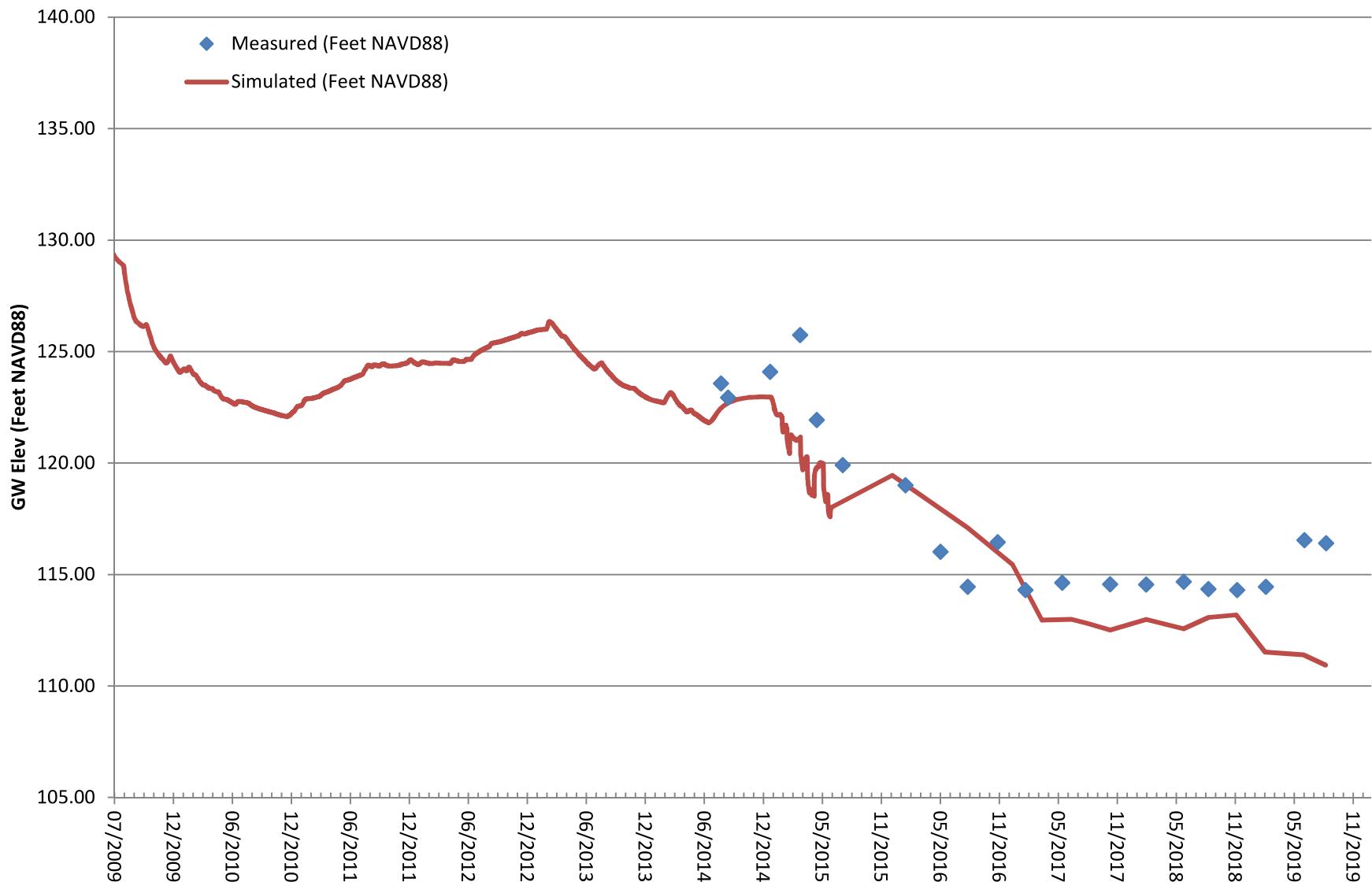


Figure 21
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
DPE-4

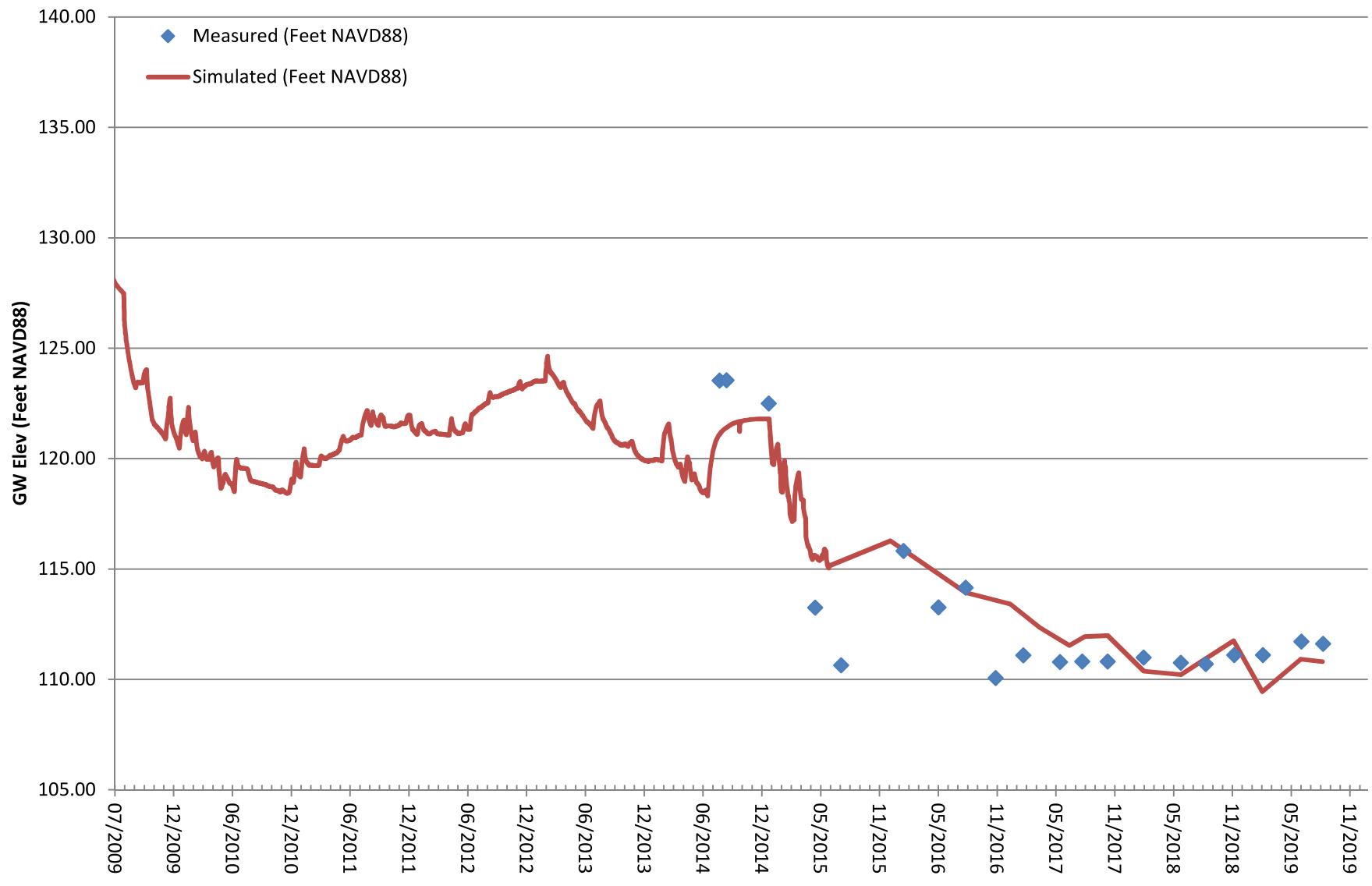


Figure 22
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
DPE-5

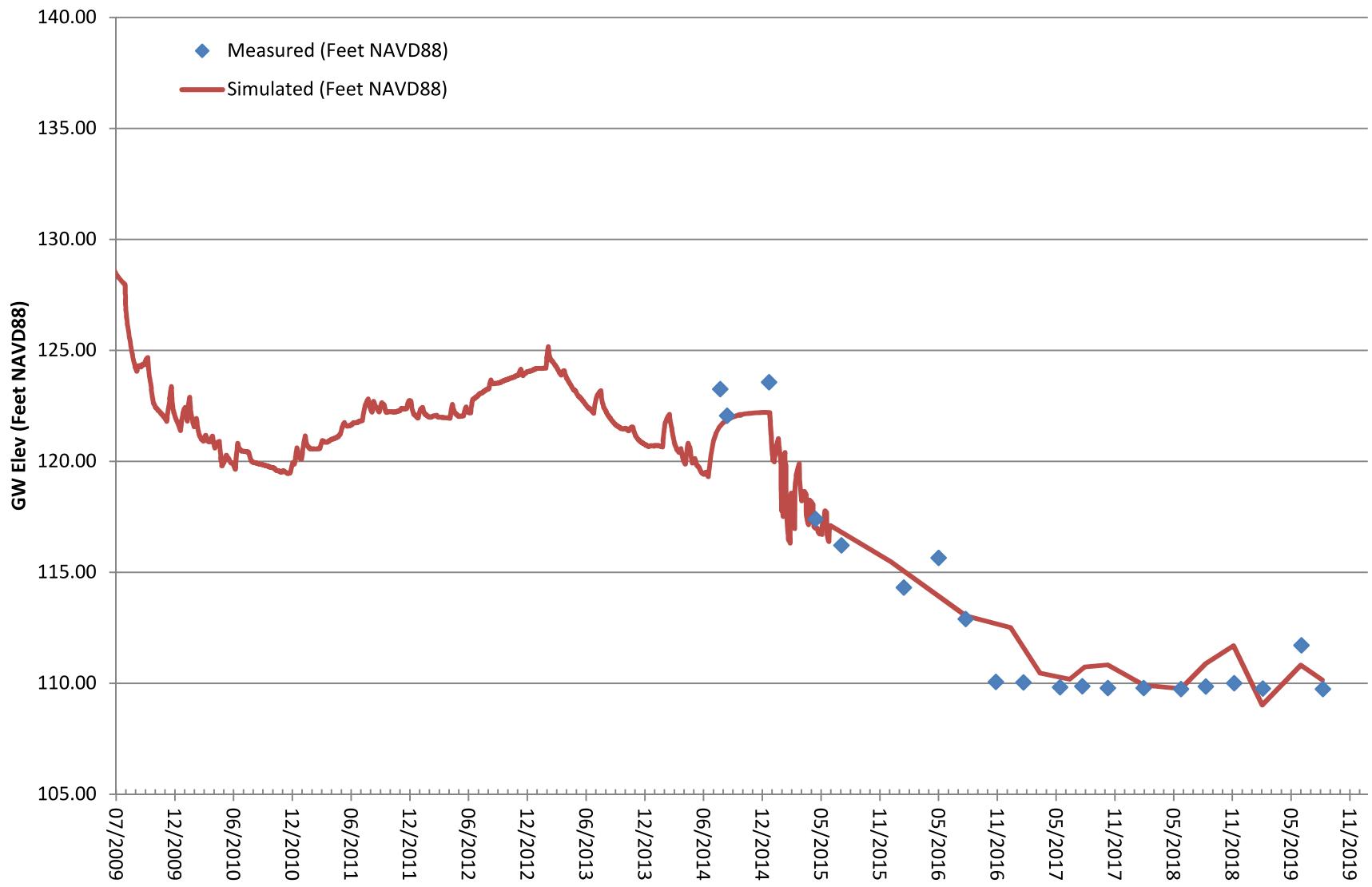


Figure 23
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
DPE-8

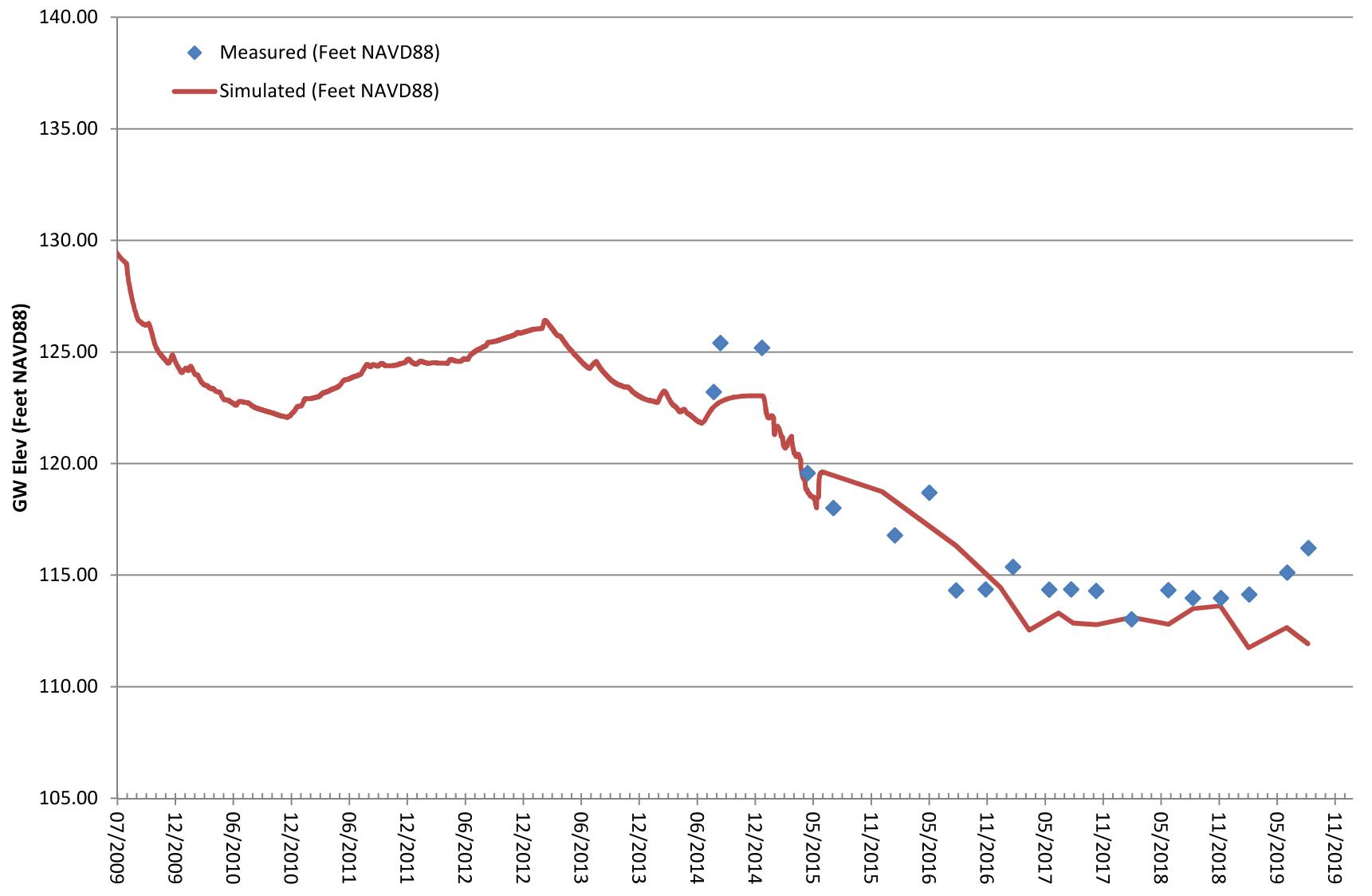


Figure 24
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
DPE-9

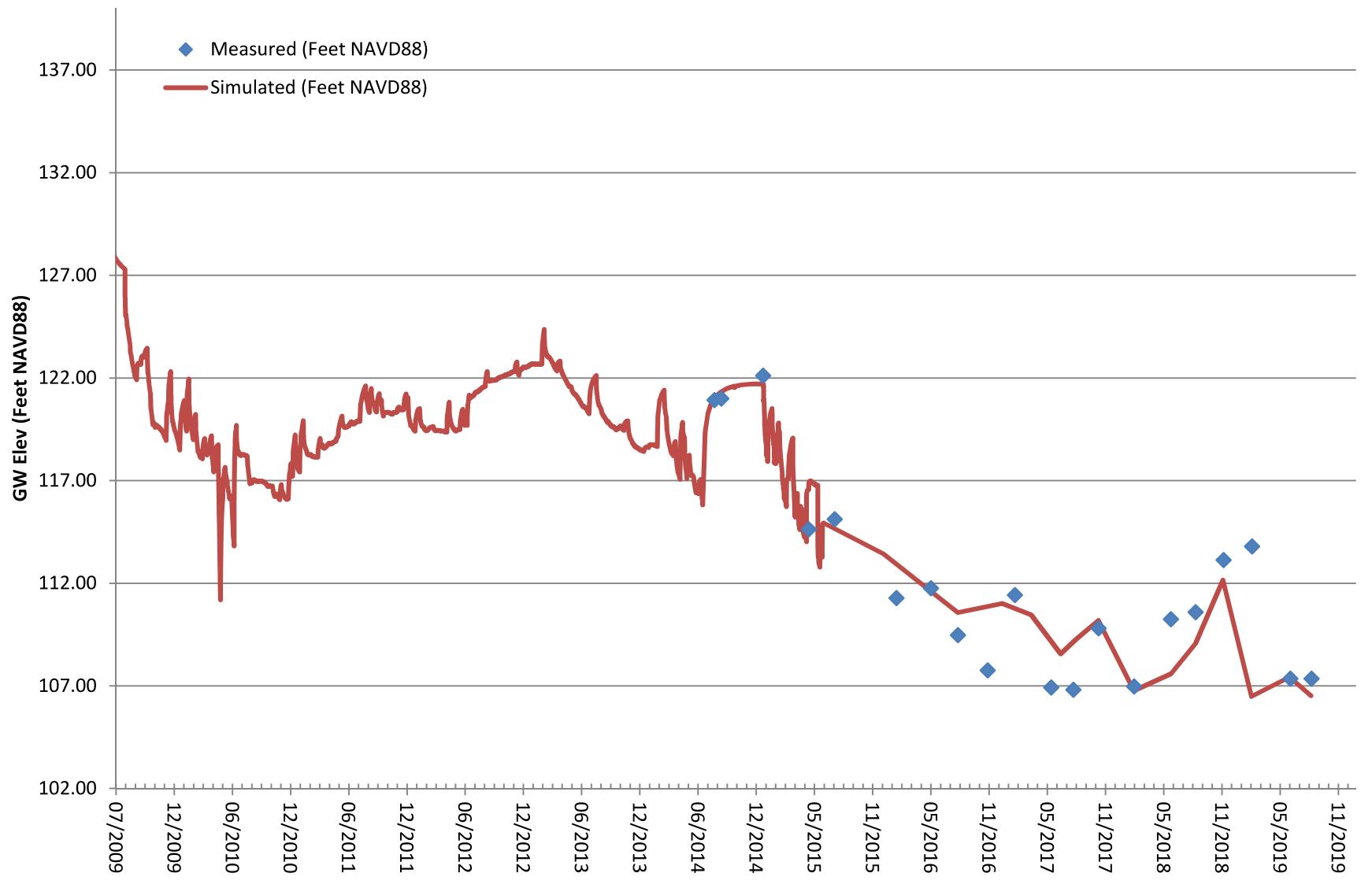


Figure 25
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
VE-7D

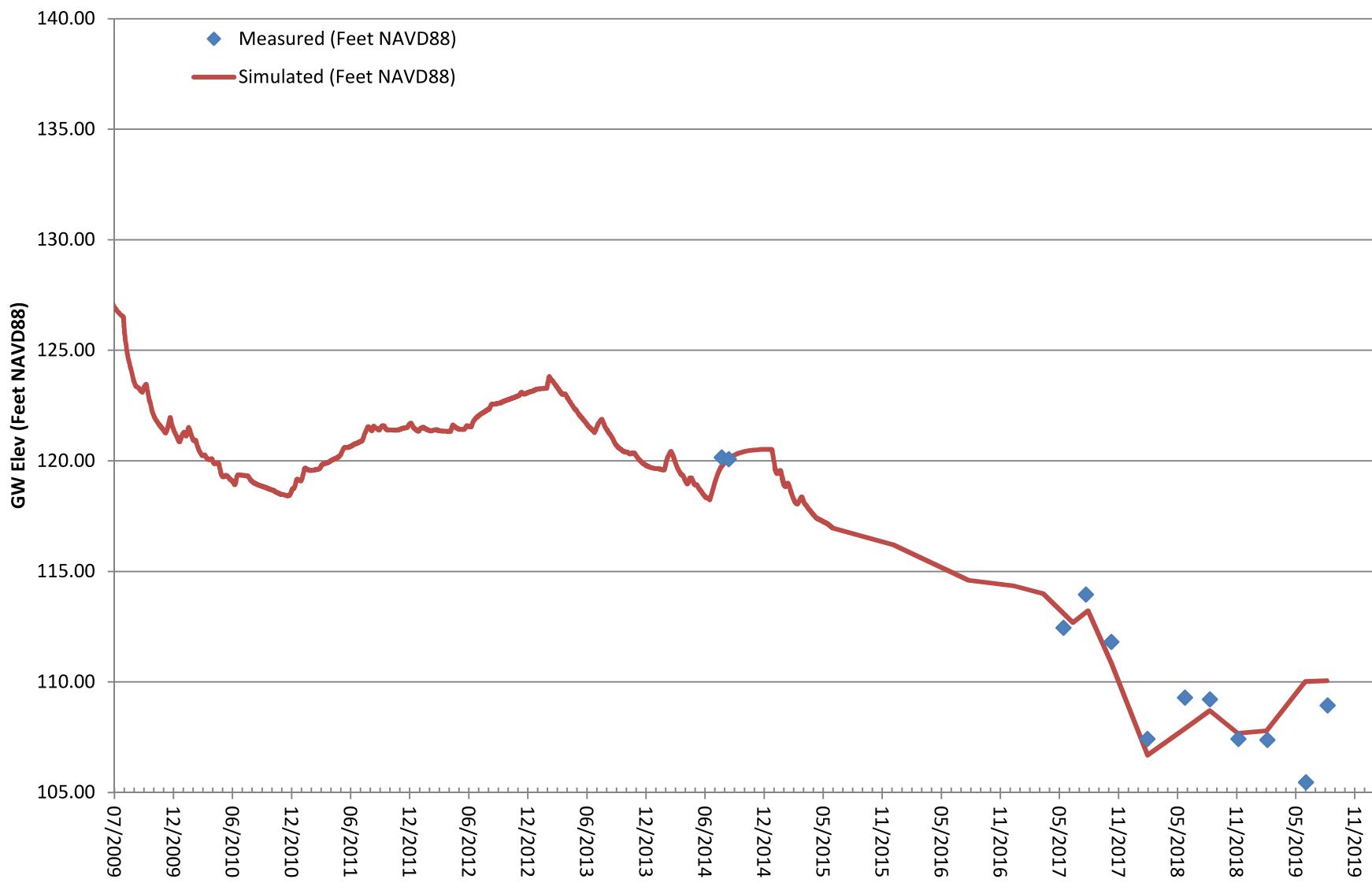


Figure 26
Omega Chemical Facility, Capture Zone Model
Observed vs. Simulated Heads
VE-10D

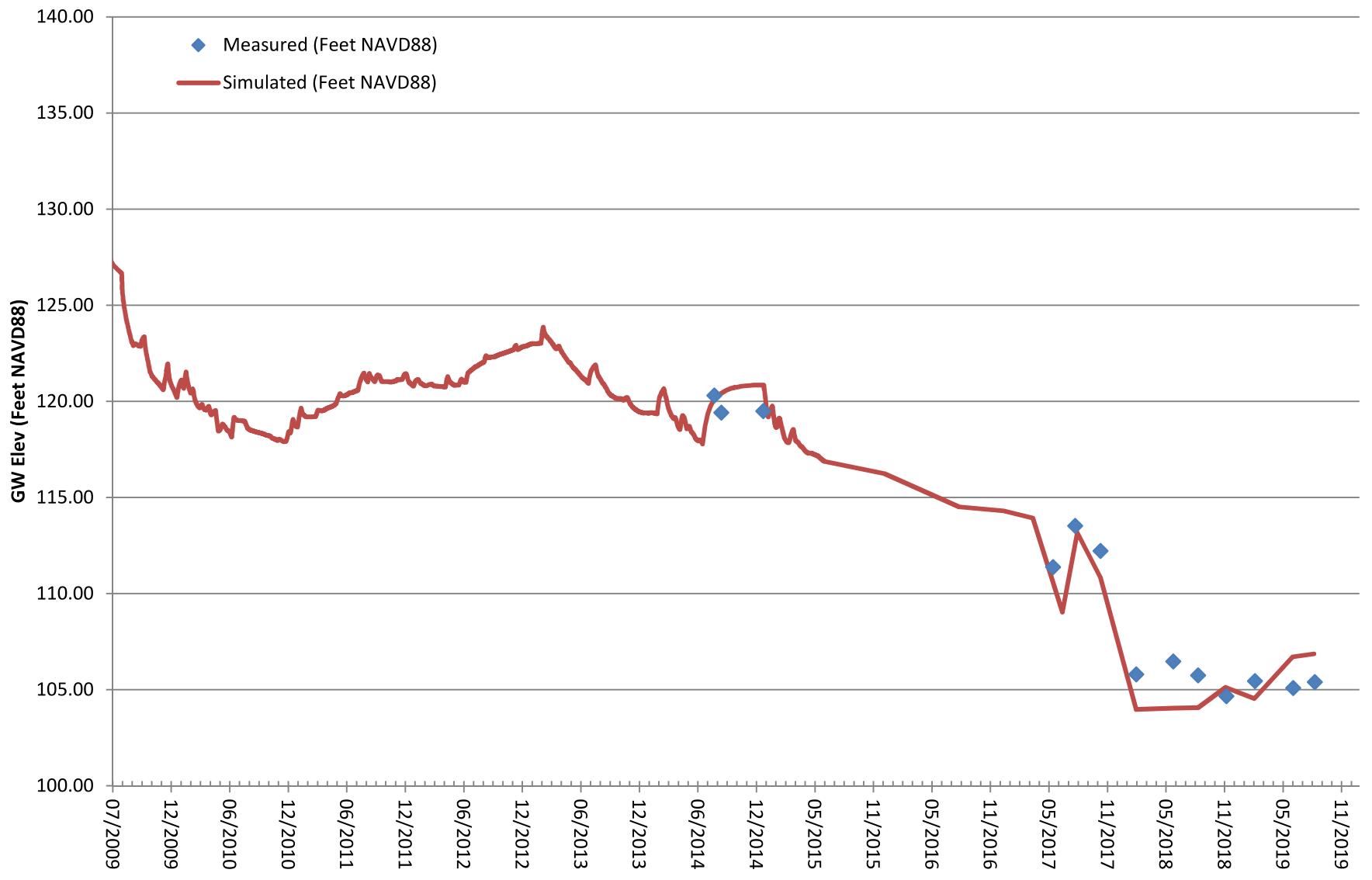
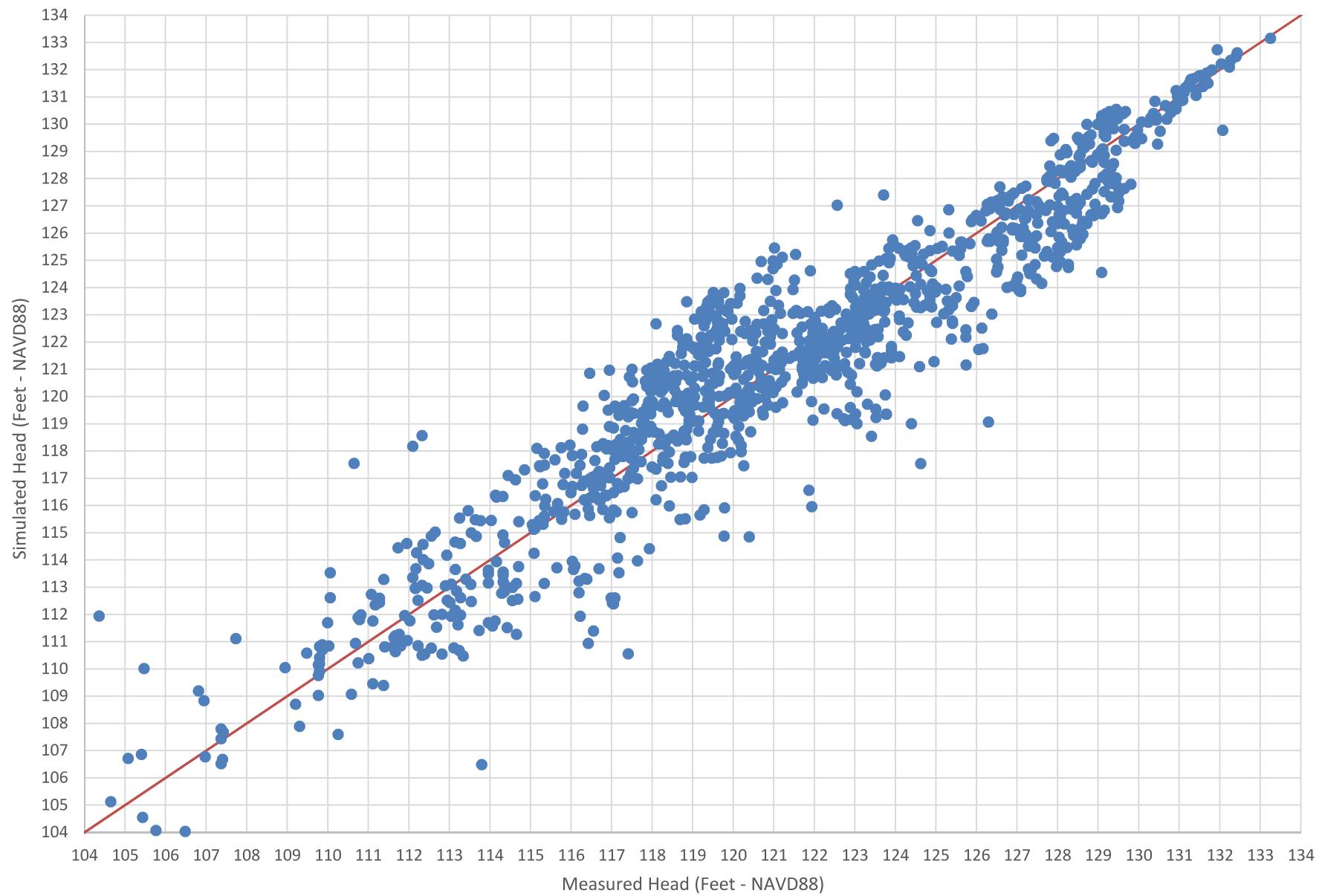


Figure 27 - Model Calibration Scatter Plot

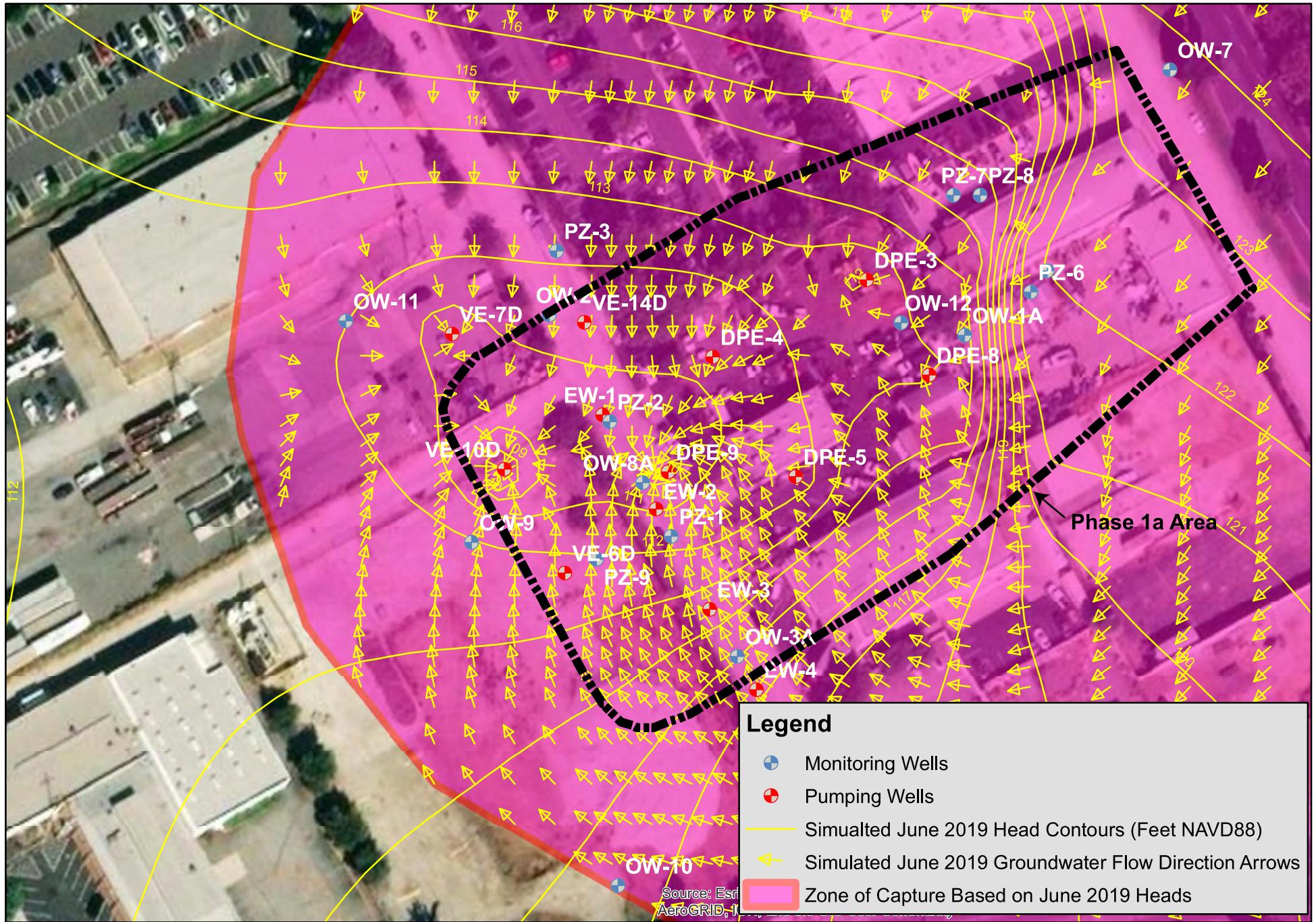




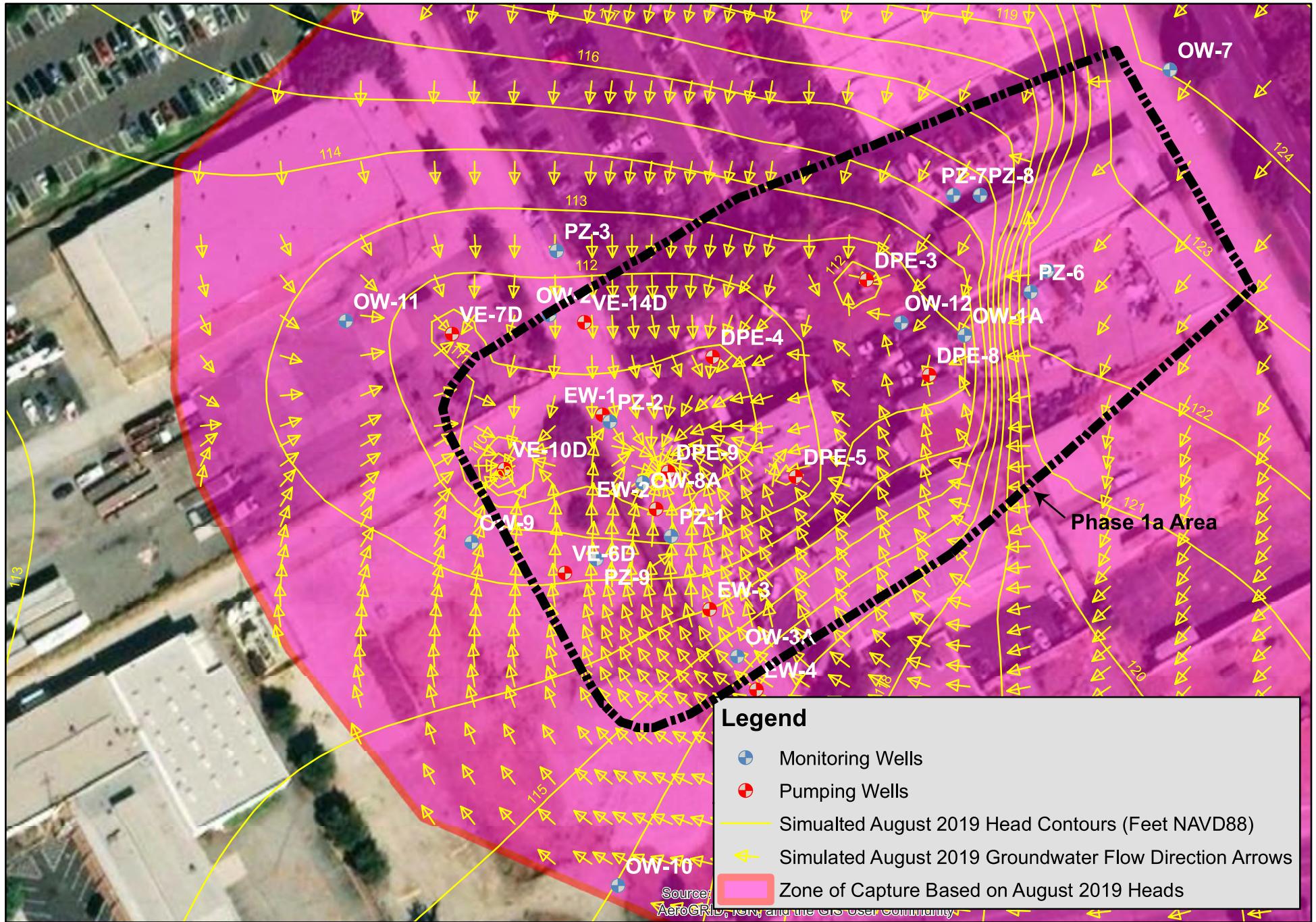
**Figure 28 - Simulated Flow Direction Arrows and Head Contours
November 2018 Conditions
Omega Chemical Facility
Capture Zone Model**



**Figure 29 - Simulated Flow Direction Arrows and Head Contours
February 2019 Conditions
Omega Chemical Facility
Capture Zone Model**



**Figure 30 - Simulated Flow Direction Arrows and Head Contours
June 2019 Conditions
Omega Chemical Facility
Capture Zone Model**



**Figure 31 - Simulated Flow Direction Arrows and Head Contours
August 2019 Conditions
Omega Chemical Facility
Capture Zone Model**





**Figure 32 - Simulated Head Contours with Residuals
November 2018 Conditions
Omega Chemical Facility
Capture Zone Model**

ATTACHMENT H

Field Forms

OMEGA
DAILY FIELD REPORT

Project Name: Omega Chemical		Project #: E742	Date: 8/15/19
Personnel: K. Azher, C. Santos	Sub Contractors: -		
Arrival Time: 0630	Departure Time: 1530	Hours on Site: 90	
Odometer (Start): -	Odometer (End): -	Total Miles: -	
Task Description:		OU-1 SVE OMM <input type="checkbox"/> AOC SVE OMM <input type="checkbox"/> GWCS OMM <input type="checkbox"/> Semi-Annual GWM - 3 rd QTR	

Equipment List:

<input type="checkbox"/> Vacuum Meter	Type: Extech Manometer	Serial #: 2147350
<input type="checkbox"/> Vacuum Meter	Type: Fluke 922 Low-Range	Serial #: 98040163
<input checked="" type="checkbox"/> PID/FID	Type: MiniRAE 3000 OPOG or rental?	Serial #: 594-907978
<input checked="" type="checkbox"/> Sample Pump	Type: Thomas Pump/Lung Box 2" Ground for Residential	Serial #: 061000166406/003689
<input type="checkbox"/> Flow Meter	Type: Velocicalc 9565	Serial #: 9565P1531034
<input checked="" type="checkbox"/> Water Level Meter	Type: Solinst 101	Serial #: 48231
<input checked="" type="checkbox"/> Water Quality Meter	Type: Hach U-52	Serial #: SWNOYGP
<input checked="" type="checkbox"/> Generator/Battery	Type: Honda 2000i	Serial #: _____
<input type="checkbox"/> Other(s): _____		

Description of Work Performed: (Summarize all field activities in a chronological sequence. Include tailgate health and safety meeting, personnel/visitors at site, calibration times and methods.)

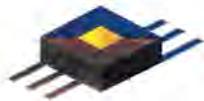
- Goto office to plan sample containers and materials for GWM.
- 0630 Arrive on site. H+S. Get paperwork ready. Mobilize equipment. Calibrate PIP (0.005 ppb): 0.005 / 5007 ppb Hexane. Calibrate WQ meter: 4.00 ppt, 4.69 m³/min, 0.0 NTR, 9.72 mg/L PO.
- 0700 Start GWM. Sample all EW's 3 PPE's. OU-1B & OU-12 dried out, will collect sample tomorrow.
- 1400 Finish for the day. Collect equipment blank.
- 1437 Relinquish samples to TA carrier. Demobilize equipment.

Client Signature (if applicable): _____ Date: _____

DAILY FIELD REPORT

Project Name: Omega Chemical	Project #: E742	Date: 8/15/19
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Process purge water through Gwes. Change bag filters.
@ 1530 clean up off site.



DAILY SAFETY MEETING

Project Name: Omega Chemical

Date: 8/15/19

Project Number: E742

Presented by: IC. Arbo

Check the Topics/Information Reviewed:

- | | | |
|--|---|--|
| <input type="checkbox"/> Safety is everyone's responsibility | <input checked="" type="checkbox"/> Smoking in designated areas | <input type="checkbox"/> ivy/oak/sumac/insects/animals |
| <input type="checkbox"/> Accidents can be costly | <input checked="" type="checkbox"/> Parking and lay down area | <input type="checkbox"/> Upgrade to Level C at: PID (<u> </u> eV)
<u>> </u> ppmv |
| <input type="checkbox"/> No horseplay | <input checked="" type="checkbox"/> Leather gloves for protection | <input type="checkbox"/> Work stoppage at: PID (<u> </u> eV)
<u>> </u> ppmv, % LEL > 10% |
| <input type="checkbox"/> Site health and safety plan reviewed | <input checked="" type="checkbox"/> Vehicle backing up hazards | <input type="checkbox"/> All underground utilities cleared? |
| <input type="checkbox"/> Review emergency protocol | <input checked="" type="checkbox"/> Sharp object, rebar, and scrap metal hazards | <input checked="" type="checkbox"/> Flex-N-Stretch performed |
| <input checked="" type="checkbox"/> Directions to hospital (<u>P14</u>) | <input checked="" type="checkbox"/> Effects of the night before? | <input checked="" type="checkbox"/> Anticipated visitors |
| <input checked="" type="checkbox"/> Employee Right-To-Know/SDS location | <input checked="" type="checkbox"/> Weather conditions (rain/snow) | <input checked="" type="checkbox"/> Temporary Power Lines |
| <input checked="" type="checkbox"/> First aid, safety, and PPE location | <input checked="" type="checkbox"/> Latex gloves inner/nitrile gloves outer | <input type="checkbox"/> Overhead Utilities |
| <input checked="" type="checkbox"/> Safety glasses, hard hat, safety boots | <input checked="" type="checkbox"/> Vibration related injuries | <input type="checkbox"/> Excavations/Trenches (competent person) |
| <input checked="" type="checkbox"/> Fire extinguisher locations | <input checked="" type="checkbox"/> Open pits, excavations, and trenching hazards | <input type="checkbox"/> Heavy Equipment Operations |
| <input checked="" type="checkbox"/> Daily work scope reviewed | <input checked="" type="checkbox"/> Noise hazards | <input type="checkbox"/> Overloaded Equipment (tipping) |
| <input checked="" type="checkbox"/> Strains and sprains | <input checked="" type="checkbox"/> Dust and vapor control | <input checked="" type="checkbox"/> Heavy Lifting |
| <input checked="" type="checkbox"/> Slips, trips, and falls | <input type="checkbox"/> Excavation/trenching inspections/documentation | <input checked="" type="checkbox"/> Traffic |
| <input checked="" type="checkbox"/> Eye wash station locations | <input type="checkbox"/> Confined space entry – permit required | <input checked="" type="checkbox"/> Exclusion Zones |
| <input checked="" type="checkbox"/> Electrical ground fault | <input type="checkbox"/> Confined space entry – non-permit required | <input type="checkbox"/> Uneven Terrain |
| <input checked="" type="checkbox"/> Vehicle safety and driving/road conditions | <input type="checkbox"/> Refueling procedures | <input checked="" type="checkbox"/> Chemicals |
| <input checked="" type="checkbox"/> Public safety and fences | <input type="checkbox"/> Full face respirators with proper cartridges | <input checked="" type="checkbox"/> Flammability |
| <input checked="" type="checkbox"/> Heat and cold stress | <input type="checkbox"/> Hot work permits | <input checked="" type="checkbox"/> Wet Surfaces |
| <input checked="" type="checkbox"/> Equipment and machinery familiarization | <input checked="" type="checkbox"/> Flying debris hazards | <input checked="" type="checkbox"/> Ladder Safety |
| <input type="checkbox"/> Excavator swing and loading | <input type="checkbox"/> Overhead utility locations cleared. | <input type="checkbox"/> Pinch Points |
| <input type="checkbox"/> Decontamination steps | <input checked="" type="checkbox"/> Poison | <input type="checkbox"/> Unexploded Ordnance (UXO) Hazard |
| <input type="checkbox"/> Portable tool safety and awareness | | <input type="checkbox"/> Daily Vehicle Walkaround/Inspection |
| <input type="checkbox"/> Orderly site and housekeeping | | |

Other Discussion Items/Comments/Follow-up Actions: Stay hydrated

JHA Site Health and Safety Officer (SHSO) of the day: IC. Arbo

NAME	SIGNATURE	COMPANY
<u>Von</u> <u>Arbo</u>	<u>Cesar</u> <u>Santoyo</u>	<u>JHA</u> <u>JHA</u>

Instructions:

- Conduct a daily safety meeting prior to beginning each day's site activities
- Complete form, obtain signatures, and file with the Daily Summary
- Follow-up on any noted items and document resolution of any action items.

OMEGA
DAILY FIELD REPORT

Project Name: Omega Chemical		Project #: E742	Date: 8/16/19
Personnel: K. Delta, C. Santoyo	Sub Contractors: -		
Arrival Time: 0545	Departure Time: 1530	Hours on Site: 9.75	
Odometer (Start): -	Odometer (End): -	Total Miles: -	
Task Description: OU-1 SVE OMM <input type="checkbox"/> AOC SVE OMM <input type="checkbox"/> GWCS OMM <input type="checkbox"/>			
3 rd QTR Semi Annual GWM			

Equipment List:

<input type="checkbox"/> Vacuum Meter	Type: Extech Manometer	Serial #: 2147350
<input type="checkbox"/> Vacuum Meter	Type: Fluke 922 Low-Range	Serial #: 98040163
<input checked="" type="checkbox"/> PID/FID	Type: MiniRAE 3000 OPOG or rental?	Serial #: 594-907978
<input checked="" type="checkbox"/> Sample Pump	Type: Thomas Pump/Lung Box 2" Grundfos Resisto	Serial #: 061000166406/003689
<input type="checkbox"/> Flow Meter	Type: Velocicalc 9565	Serial #: 9565P1531034
<input checked="" type="checkbox"/> Water Level Meter	Type: Solinst 101	Serial #: 48231
<input checked="" type="checkbox"/> Water Quality Meter	Type: Hach U-52	Serial #: SWNDY6JJP
<input checked="" type="checkbox"/> Generator/Battery	Type: Honda 2000i	Serial #: _____
<input type="checkbox"/> Other(s): _____		

Description of Work Performed: (Summarize all field activities in a chronological sequence. Include tailgate health and safety meeting, personnel/visitors at site, calibration times and methods.)

0545 Arrive onsite. HTS Get power ready. Look up new sampling procedures in OU1 OMM manual.

0620 Mobilize equipment. Calibrate flowmeter: 4.00 pH, 4.49% En, 0.0026, 9.19 mg/L. Calibrate PID (0.06 ppb): 0 ppb / 5007 ppb Hexane.

0635 Start GWM.

1300 Finish for the day.

Client Signature (if applicable): _____ Date: _____

DAILY FIELD REPORT

Project Name: Omega Chemical	Project #: E742	Date: 8/16/19
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0600 Goto Gravels. Demobilize equipment. Clean equipment tank. Start processing purge water as well as leak testing generated water. Process ~176 gal of purge water & ~327 gal of leak testing water. System shutdown due to High humidity alarm. Some soap was in leak testing water causing some water to enter the blower. Vacuum motor and char alarm. Restart system.

1420 Collect 0W-1 WL. Finish paperwork. CS picks up summaries from RedBox.

1500 TA onsite. Relinquish samples.

1530 Clean up off site.



DAILY SAFETY MEETING

Project Name: Omega Chemical

Date: 8/16/19

Project Number: E742

Presented by: K. Archer

Check the Topics/Information Reviewed:

- | | | |
|--|---|---|
| <input type="checkbox"/> Safety is everyone's responsibility | <input checked="" type="checkbox"/> Smoking in designated areas | <input type="checkbox"/> Ivy/oak/sumac/insects/animals |
| <input type="checkbox"/> Accidents can be costly | <input type="checkbox"/> Parking and lay down area | <input type="checkbox"/> Upgrade to Level C at: PID (<u> </u> eV)
> <u> </u> ppmv |
| <input type="checkbox"/> No horseplay | <input type="checkbox"/> Leather gloves for protection | <input type="checkbox"/> Work stoppage at: PID (<u> </u> eV)
> <u> </u> ppmv, % LEL > 10% |
| <input type="checkbox"/> Site health and safety plan reviewed | <input type="checkbox"/> Vehicle backing up hazards | <input type="checkbox"/> All underground utilities cleared? |
| <input type="checkbox"/> Review emergency protocol | <input type="checkbox"/> Sharp object, rebar, and scrap metal hazards | <input checked="" type="checkbox"/> Flex-N-Stretch performed |
| <input checked="" type="checkbox"/> Directions to hospital (<u>P14</u>) | <input checked="" type="checkbox"/> Effects of the night before? | <input type="checkbox"/> Anticipated visitors |
| <input checked="" type="checkbox"/> Employee Right-To-Know/SDS location | <input checked="" type="checkbox"/> Weather conditions (rain/snow) | <input type="checkbox"/> Temporary Power Lines |
| <input type="checkbox"/> First aid, safety, and PPE location | <input checked="" type="checkbox"/> Latex gloves inner/nitrile gloves outer | <input type="checkbox"/> Overhead Utilities |
| <input type="checkbox"/> Safety glasses, hard hat, safety boots | <input checked="" type="checkbox"/> Vibration related injuries | <input type="checkbox"/> Excavations/Trenches (competent person) |
| <input checked="" type="checkbox"/> Fire extinguisher locations | <input checked="" type="checkbox"/> Open pits, excavations, and trenching hazards | <input type="checkbox"/> Heavy Equipment Operations |
| <input checked="" type="checkbox"/> Daily work scope reviewed | <input checked="" type="checkbox"/> Noise hazards | <input type="checkbox"/> Overloaded Equipment (tipping) |
| <input checked="" type="checkbox"/> Strains and sprains | <input checked="" type="checkbox"/> Dust and vapor control | <input checked="" type="checkbox"/> Heavy Lifting |
| <input checked="" type="checkbox"/> Slips, trips, and falls | <input type="checkbox"/> Excavation/trenching inspections/documentation | <input checked="" type="checkbox"/> Traffic |
| <input checked="" type="checkbox"/> Eye wash station locations | <input type="checkbox"/> Confined space entry – permit required | <input checked="" type="checkbox"/> Exclusion Zones |
| <input checked="" type="checkbox"/> Electrical ground fault | <input type="checkbox"/> Confined space entry – non-permit required | <input checked="" type="checkbox"/> Uneven Terrain |
| <input checked="" type="checkbox"/> Vehicle safety and driving/road conditions | <input type="checkbox"/> Refueling procedures | <input checked="" type="checkbox"/> Chemicals |
| <input checked="" type="checkbox"/> Public safety and fences | <input type="checkbox"/> Full face respirators with proper cartridges | <input checked="" type="checkbox"/> Flammability |
| <input checked="" type="checkbox"/> Heat and cold stress | <input type="checkbox"/> Hot work permits | <input checked="" type="checkbox"/> Wet Surfaces |
| <input checked="" type="checkbox"/> Equipment and machinery familiarization | <input checked="" type="checkbox"/> Flying debris hazards | <input checked="" type="checkbox"/> Ladder Safety |
| <input checked="" type="checkbox"/> Excavator swing and loading | <input type="checkbox"/> Overhead utility locations cleared. | <input checked="" type="checkbox"/> Pinch Points |
| <input checked="" type="checkbox"/> Decontamination steps | <input type="checkbox"/> Poison | <input type="checkbox"/> Unexploded Ordnance (UXO) Hazard |
| <input checked="" type="checkbox"/> Portable tool safety and awareness | | <input checked="" type="checkbox"/> Daily Vehicle Walkaround/Inspection |
| <input checked="" type="checkbox"/> Orderly site and housekeeping | | |

Other Discussion Items/Comments/Follow-up Actions: Stay hydrated

JHA Site Health and Safety Officer (SHSO) of the day: Khalid Archer

NAME

C. Santop
Khalid Archer

SIGNATURE

C. Santop
Archer

COMPANY

JHA
JHA

Instructions:

- Conduct a daily safety meeting prior to beginning each day's site activities
- Complete form, obtain signatures, and file with the Daily Summary
- Follow-up on any noted items and document resolution of any action items.

OMEGA
DAILY FIELD REPORT

Project Name: Omega Chemical		Project #: E742	Date: 8/19/19
Personnel: K. Ahr, C. Senty	Sub Contractors: -		
Arrival Time: 0700	Departure Time: 1630	Hours on Site: 9.5	
Odometer (Start): -	Odometer (End): -	Total Miles: -	
Task Description: OU-1 SVE OMM <input type="checkbox"/> AOC SVE OMM <input type="checkbox"/> GWCS OMM <input type="checkbox"/>			

Equipment List:

- | | | |
|---|--|-------------------------------|
| <input type="checkbox"/> Vacuum Meter | Type: Extech Manometer | Serial #: 2147350 |
| <input type="checkbox"/> Vacuum Meter | Type: Fluke 922 Low-Range | Serial #: 98040163 |
| <input type="checkbox"/> PID/FID | Type: MiniRAE 3000 OPOG or rental? | Serial #: 594-907978 |
| <input checked="" type="checkbox"/> Sample Pump | Type: Thomas Pump/Lung Box
2" Groundless Twiflo | Serial #: 061000166406/003689 |
| <input type="checkbox"/> Flow Meter | Type: Velocicalc 9565 | Serial #: 9565P1531034 |
| <input checked="" type="checkbox"/> Water Level Meter | Type: Solinst 101 | Serial #: 48231 |
| <input checked="" type="checkbox"/> Water Quality Meter | Type: Horiba U-52 | Serial #: SWNDY6,JP |
| <input checked="" type="checkbox"/> Generator/Battery | Type: Honda 2000i | Serial #: _____ |
| <input type="checkbox"/> Other(s): _____ | | |

Description of Work Performed: (Summarize all field activities in a chronological sequence. Include tailgate health and safety meeting, personnel/visitors at site, calibration times and methods.)

0700 Arrive on site. HHS. Get personnel ready. Mobilize equipment. Calibrate Horiba WQ meter: 4.00 pH, 4.49 mS/cm, 0.0 ppm, 9.87 mg/L. Start GWML.

0830 Re-purge DW-9/10/PZ-9 to collect required WL sample within 24hrs.
1300 Start VMP monitoring.

1630 Finish for the day. Will collect GW samples tomorrow. Off site.

Client Signature (if applicable): _____ Date: _____



DAILY SAFETY MEETING

Project Name: Omega Chemical

Date: 8/19/11

Project Number: E742

Presented by: K. Arora

Check the Topics/Information Reviewed:

- Safety is everyone's responsibility
 - Accidents can be costly
 - No horseplay
 - Site health and safety plan reviewed
 - Review emergency protocol
 - Directions to hospital (X-4)
 - Employee Right-To-Know/SDS location
 - First aid, safety, and PPE location
 - Safety glasses, hard hat, safety boots
 - Fire extinguisher locations
 - Daily work scope reviewed
 - Strains and sprains
 - Slips, trips, and falls
 - Eye wash station locations
 - Electrical ground fault
 - Vehicle safety and driving/road conditions
 - Public safety and fences
 - Heat and cold stress
 - Equipment and machinery familiarization
 - Excavator swing and loading
 - Decontamination steps
 - Portable tool safety and awareness
 - Orderly site and housekeeping
 - Smoking in designated areas
 - Parking and lay down area
 - Leather gloves for protection
 - Vehicle backing up hazards
 - Sharp object, rebar, and scrap metal hazards
 - Effects of the night before?
 - Weather conditions (rain/snow)
 - Latex gloves inner/nitrile gloves outer
 - Vibration related injuries
 - Open pits, excavations, and trenching hazards
 - Noise hazards
 - Dust and vapor control
 - Excavation/trenching inspections/documentation
 - Confined space entry – permit required
 - Confined space entry – non-permit required
 - Refueling procedures
 - Full face respirators with proper cartridges
 - Hot work permits
 - Flying debris hazards
 - Overhead utility locations cleared.
 - Poison
 - ivy/oak/sumac/insects/animals
 - Upgrade to Level C at: PID (eV) > ppmv
 - Work stoppage at: PID (eV) > ppmv, % LEL > 10%
 - All underground utilities cleared?
 - Flex-N-Stretch performed
 - Anticipated visitors
 - Temporary Power Lines
 - Overhead Utilities
 - Excavations/Trenches (competent person)
 - Heavy Equipment Operations
 - Overloaded Equipment (tipping)
 - Heavy Lifting
 - Traffic
 - Exclusion Zones
 - Uneven Terrain
 - Chemicals
 - Flammability
 - Wet Surfaces
 - Ladder Safety
 - Pinch Points
 - Unexploded Ordnance (UXO) Hazard
 - Daily Vehicle Walkaround/Inspection

Other Discussion Items/Comments/Follow-up Actions: Stay by) voted)

JHA Site Health and Safety Officer (SHSO) of the day: Khurid Arke

NAME	SIGNATURE	COMPANY
Phewd Doh		J HA

Instructions:

- Conduct a daily safety meeting prior to beginning each day's site activities
 - Complete form, obtain signatures, and file with the Daily Summary
 - Follow-up on any noted items and document resolution of any action items.

GROUNDWATER GAUGING FORM

OMEGA CHEMICAL SUPERFUND SITE
WHITTIER, CA

Date: 8/15, 8/16

Technician(s): K. Azhar, C. Santoyo

Well ID	Well Diameter (in)	Screen Interval (ft bTOC)	Date/Time	PID (ppmv)	Depth to Water (ft bTOC)	Total Depth (ft bTOC)	Previous Depth to Water 2nd QTR 2019 (ft bTOC)	Previous Total Depth (ft bTOC)	Comments
EW-1	6	72 - 87	8/15 1233	0.0	85.30	-	86.51	-	85.20 (HMI)
EW-2	6	72 - 87	8/15 1245	0.0	84.00	-	85.65	-	84.27 (HMI)
EW-3	6	70 - 85	8/15 1258	0.0	82.51	-	82.34	-	82.47 (HMI)
EW-4	6	71 - 86	8/15 1313	0.0	70.43	89.08	80.73	-	81.95 (manual), 81.06 (HMI)
EW-5	6	70 - 85	8/15 1326	0.0	81.60	-	81.75	-	81.32 (HMI)
PZ-1	2	68 - 88	8/15 0758	0.0	86.29	87.27	86.19	87.3	
PZ-2	2	64 - 84	8/15 0750	0.0	84.05	84.45	84	84.45	
PZ-3	2	69.8 - 89.8	8/15 0730	0.0	DRY	88.99	88.91	89	
PZ-4	2	70 - 90	8/15 0725	0.0	70.43	89.06	70.13	89.05	
PZ-9	2	70 - 90	8/16 1158	0.0	84.41	90.02	85.15	89.87	
OW-1a	4	62.5 - 77.5	8/16 1420	0.0	79.66*	82.55	79.29	82.6	DRY, WL is below screen
OW-1b	4	110 - 120	8/15 0940	0.0	94.20	118.15	94.46	118.11	
OW-2	4	60 - 80	8/15 0715	0.0	DRY	79.55	DRY	79.55	
OW-3a	4	63 - 83	8/15 0802	0.0	79.77	81.84	78.2	81.9	
OW-3b	4	112 - 122	8/16 0630	0.0	94.95	122.0	94.85	122	
OW-7	4	70.9 - 90.9	8/16 0630	0.0	94	89.12	DRY	89.12	
OW-8a	4	60.4 - 80	8/16 0832	0.0	75.66	79.10	73.62	79.05	8/20 0700 75.90 DTW / 79.10 DTB
OW-8b	4	116 - 126	8/20 0748	0.102	98.30	126.6	98.1	126	
OW-9	4	70 - 90	8/16 1128	0.784	85.85	89.8	86.17	89.8	
OW-10	4	69.5 - 89.5	8/16 2180	0.180	77.12	89.00	76.84	89	
OW-11	4	80 - 100	8/16 0842	0.123	87.11	98.80	87.02	98.65	
OW-12	4	80 - 100	8/15 1105	0.084	91.4L	100.0	92.21	100	

GROUNDWATER GAUGING FORM
 OMEGA CHEMICAL SUPERFUND SITE
 WHITTIER, CA

Date: 8/15

Technician(s): K. Aher, C. Santoyo

Well ID	Well Diameter (in)	Screen Interval (ft bTOC)	Date/Time	PID (ppmv)	Depth to Water (ft bTOC)	Total Depth (ft bTOC)	Previous Depth to Water 2nd QTR 2019 (ft bTOC)	Previous Total Depth (ft bTOC)	Comments
OW-13B	4	40-140	8/15 1001	13.0	98.22	140.0	98.22	140.08	
DPE-3	4	40 - 100	8/15 0839	NM	91.97	NM	90.35	NM	
DPE-4	4	40 - 100	8/15 0853	NM	91.87	NM	91.25	NM	
DPE-5	4	40 - 100	8/15 1005	NM	92.02	NM	90.05	NM	
DPE-8	4	40 - 100	8/15 0818	NM	90.84	NM	89.75	NM	
DPE-9	4	40 - 100	8/15 0917	NM	92.30	NM	91.7	NM	
DPE-7D	4	40 - 100	8/15 1407	NM	90.52	NM	94.65	NM	
DPE-10D	4	40 - 100	8/15 1352	NM	92.77	NM	93.7	NM	
DPE-11D	4	40 - 100	-	-	-	NM	NM	NM	
DPE-13D	4	40 - 100	-	-	-	NM	NM	NM	



JHA
ENVIRONMENTAL

Groundwater Monitoring Data Form

Page : 1 of 1

TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

							Control Box Settings	
Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Pump Speed:	Typ Flow:
1230	1235	~	< 1	-	-	85.30	Primary Sample ID=	OC_GW-EW-1_20190815
							Primary Sample Time: (hh:mm)	1230



Groundwater Monitoring Data Form

Page: 1 of 1

TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

							Control Box Settings	
Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Pump Speed:	Typ Flow:
							Primary Sample ID=	
							Primary Sample Time: (hh:mm)	



Groundwater Monitoring Data Form

Page : 1 of 1

TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

							Control Box Settings	
Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Pump Speed:	Typ Flow:
1256	1301	~1.2	<1	-	-	82.51	Primary Sample ID= DC-GW-EW-4_20190815	
							Primary Sample Time: (hh:mm) 1256	



JHA
ENVIRONMENTAL

Groundwater Monitoring Data Form

Page : 1 of 1

TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
							Pump Speed:	Typ Flow:
1311	1316	~6.0	<1	-	-	81.95	Primary Sample ID=	OC-GW-EN-4-20190815
							Primary Sample Time: (hh:mm) 1311	



Groundwater Monitoring Data Form

Page: 1 of

TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
							Pump Speed:	Typ Flow:
1326	1331	~4.8	<1	-	-	81.60	Primary Sample ID=	OC-GN-EN-5-20190815
							Primary Sample Time: (hh:mm) 1326	



Groundwater Monitoring Data Form

Page: 1 of 1

TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Control Box Settings							
Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Pump Speed: Typ Flow:
0842	0847	~3.0	<1	-	-	91.97	Primary Sample ID= <i>OC-GN-DPE-3_20190815</i>
						Primary Sample Time: (hh:mm) <i>0842</i>	



Groundwater Monitoring Data Form

Page 1 of 1

Well Information				Purging Information				Project Information			Well Information			
Well ID #: DPE-4				Date: 8/15/19				Site: Omega			Survey Monitoring Point (MP); TOC (N)			
Well Total Depth: -				Sampling Event: 3rd QTR Semi Annual GWK				Client Name: De Maximis						
Well Diameter: 4"				Purge Equip: Dedicated Pump				Project #: E742			Pump Information:			
Screen Interval: 40-100				Purging Method: Grav				Consultant: JHA Env. Inc.			Pump Model: -			
Pump Depth: -				Sampling Equipment: -				Sampler: KA, CS			Single System Volume: -			
LNAPL PRESENT?	NAPL THICKNESS			DEPTH TO LNAPL (ft)	DEPTH TO BOTTOM (ft)	DEPTH TO WATER (ft)	HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT				ONE CASING VOLUME CXD = E	THREE CASING VOLUMES EX 3	
	Well Dia	0.75"	2"					4"	6"					
-	-			-	-	-	-	Well Dia	0.75"	2"	4"	6"	-	-
								Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A
TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments			
0853	-	1.4	-	91.87	21.51	7.00	1.01	4.10	0.0	152				

TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings				
							Pump Speed: -	Typ Flow: -			
0856	0901	~1.4	<1	-	-	91.87	Primary Sample ID= OC-GW-DPE-4-20190815	Primary Sample Time: (hh:mm) 0856			



JHA
ENVIRONMENTAL

Groundwater Monitoring Data Form

Page : 1 of

TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

							Control Box Settings	
Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Pump Speed:	Typ Flow:
1005	1010	~2.1	<1	-	-	92.02	Primary Sample ID= DC_GW-DPE-5_20190815	
							Primary Sample Time: (hh:mm) 1005	



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Groundwater Monitoring Data Form

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TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

							Control Box Settings	
Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Pump Speed:	Typ Flow:
1100	1105	~2.4	<1	-	-	90.52	Primary Sample ID=	OC-GN-DPE-7D-20190815
							Primary Sample Time: (hh:mm) 1100	



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Groundwater Monitoring Data Form

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TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

							Control Box Settings	
Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Pump Speed:	Typ Flow:
0823	0828	~1.4	<1	-	-	90.84	Primary Sample ID= OC-GW-DPE-8-20190815	
							Primary Sample Time: (hh:mm) 0823	



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Groundwater Monitoring Data Form

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TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

								Control Box Settings	
Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Pump Speed:	-	Typ Flow:
0920	0925	~4.2	<1	-	-	92.30	Primary Sample ID=	OC-GW-DPE-9-20190815	
								Primary Sample Time: (hh:mm)	0920



Groundwater Monitoring Data Form

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TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

							Control Box Settings	
Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Pump Speed:	Typ Flow:
1030	1035	~2.4	<1	-	-	92.77	Primary Sample ID= DC_GW-DPE-10D_20190815	
							Primary Sample Time: (hh:mm) 1030	



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Groundwater Monitoring Data Form

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TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
							Pump Speed:	Typ Flow:
—	—	—	—	—	—	—	Primary Sample ID= —	
						Primary Sample Time: (hh:mm) —		



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Groundwater Monitoring Data Form

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TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
0950	1024	~1.0	~25	< 1	98.99	94.18	Pump Speed: 242 Hz → 255 Hz	Typ Flow: ~1.0 SPm
1016 (Lowered) pump to bottom and increased speed due to flow							Primary Sample ID= OC-GW-0N-1B_20190816	Primary Sample Time: (hh:mm) 0911



Groundwater Monitoring Data Form

Page : 1 of 1

TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

							Control Box Settings	
Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Pump Speed:	Typ Flow:
							Primary Sample ID=	
							Primary Sample Time: (hh:mm)	



Groundwater Monitoring Data Form

Page : 1 of 1

TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
0813	0835	-	-	-	-	-	Pump Speed:	Typ Flow:
							Primary Sample ID=	



Groundwater Monitoring Data Form

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Well Information				Purging Information				Project Information		Well Information			
Well ID #: OW-3B				Date: 8/16/19				Site: Omega		Survey Monitoring Point (MP); TOC (N)			
Well Total Depth: 122				Sampling Event: 3" QTR SemiAnn. GWM				Client Name: De Maximis					
Well Diameter: 4"				Purge Equip: 2" Grundfos Pump 16				Project #: E742		Pump Information:			
Screen Interval: 112-122				Purging Method: 3 Vol-				Consultant: JHA Env. Inc.		Pump Model: 2" Grundfos Pump 16 with			
Pump Depth: 121				Sampling Equipment: -				Sampler: KA, CS		Single System Volume: -			
LNAPL PRESENT?	NAPL THICKNESS			DEPTH TO LNAPL (ft)	A	B	C	GALLONS PER FOOT			ONE CASING VOLUME CXD = E	THREE CASING VOLUMES EX 3	
	-				DEPTH TO BOTTOM (ft)	DEPTH TO WATER (ft)	HEIGHT OF WATER COLUMN A-B=C						
	-	122.0	94.95		27.1				Well Dia	0.75"			2"
							Gals/ft	0.02	0.16	0.65	1.47	N/A	N/A
TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments		
0701	-	~2.0	20	99.10	20.76	6.85	1.06	3.71	0.0	199			
0711	-	~2.0	40	99.20	20.88	6.85	1.06	3.80	1.0	201			
0721	-	~2.0	60	99.23	21.03	7.02	1.06	4.11	0.0	189			
0731	-	~2.0	80	99.25	21.08	7.11	1.07	3.76	0.0	183			
0741	-	~2.0	100	99.26	21.11	7.13	1.07	4.44	0.0	181			
0744	-	~2.0	106	99.27	21.12	7.13	1.07	4.48	0.0	181			

TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings			
							Pump Speed: 263 Hz	Typ Flow: ~2.0		
0651	0750	~2.0	~108	3	-	99.27	Primary Sample ID= OC-GW-OW-3B-20190816 , OC-GW-010-3B-20190816K			
							Primary Sample Time: (hh:mm) 0745 , 0747			



Groundwater Monitoring Data Form

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TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
							Pump Speed:	Typ Flow:
							Primary Sample ID=	
							Primary Sample Time: (hh:mm)	



Groundwater Monitoring Data Form

Page : 1 of 1

Well Information				Purging Information				Project Information		Well Information		
Well ID #: 00-8A				Date: 8/20/19				Site: Omega		Survey Monitoring Point (MP); TOC (N)		
Well Total Depth: 79.10				Sampling Event: 3" QIK Semi-Around GWM				Client Name: De Maximis				
Well Diameter: 4"				Purge Equip: 2" Ground Pro Redillo				Project #: E742		Pump Information:		
Screen Interval: 60.4-80				Purging Method: 3 Val.				Consultant: JHA Env. Inc.		Pump Model: Ground Pro		
Pump Depth: 78				Sampling Equipment: -				Sampler: KD, CS		Single System Volume: -		
LNAPL PRESENT?	NAPL THICKNESS			DEPTH TO LNAPL (ft)	A	B	C	GALLONS PER FOOT			ONE CASING VOLUME CXD = E	THREE CASING VOLUMES EX 3
	-				DEPTH TO BOTTOM (ft)	DEPTH TO WATER (ft)	HEIGHT OF WATER COLUMN A-B=C	-				
	-				79.10	75.90	3.2	Well Dia	0.75" 2" 4" 6"	4.16		
						Gals/ft	0.02 0.16 0.65 1.47	N/A	N/A			
TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments	
0717	-	~0.5	3	76.99	20.61	7.60	0.948	7.58	43.0	119		
0723	-	~0.5	6	77.27	21.48	7.76	0.926	7.37	11.2	121		
0729	-	~0.5	9	77.51	21.65	7.64	0.923	6.84	5.5	133		
0736	-	~0.5	12.5	77.84	21.82	7.55	0.923	6.17	3.5	143		

TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings		
							Pump Speed: 200 Hz	Typ Flow: ~0.5	
0711	0742	~0.5	~13.5	3	-	77.84	Primary Sample ID= 00-GW-00-8A-20190820		Primary Sample Time: (hh:mm) 0739



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Groundwater Monitoring Data Form

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TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
0757	0856	~2.0	112	3	—	99.41	Pump Speed: 267 Hz	Typ Flow: ~2.0
							Primary Sample ID= OC-GW-OW-8B-20190820	Primary Sample Time: (hh:mm) 0854



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Groundwater Monitoring Data Form

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TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Control Box Settings								
Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Pump Speed: -	Typ Flow: -
0915	0935	-	~3	<1	86.68	84.95	Primary Sample ID= OC_GW-0W-9_10190820	
							Primary Sample Time: (hh:mm) 0835	



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Groundwater Monitoring Data Form

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TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

							Control Box Settings	
Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Pump Speed:	Typ Flow:
0837	0954	~0.5	~9	< 1	79.42	77.27	218 4z	~0.5
							Primary Sample ID: 0C_GNL_0W-10_70190840	
							Primary Sample Time: (hh:mm) 0900	



Groundwater Monitoring Data Form

Page : 1 of 1

Well Information				Purging Information				Project Information		Well Information				
Well ID #: 06-11				Date: 8/16/19				Site: Omega		Survey Monitoring Point (MP); TOC (N)				
Well Total Depth: 98.80				Sampling Event: 3rd Qtr Semimonth GWM				Client Name: De Maximis						
Well Diameter: 4"				Purge Equip: 2" Groundwater Recip				Project #: E742		Pump Information:				
Screen Interval: 80-100				Purging Method: 3 Vol.				Consultant: JHA Env. Inc.		Pump Model: 2" Groundwater Recip				
Pump Depth: 97				Sampling Equipment: -				Sampler: CA, CS		Single System Volume: -				
LNAPL PRESENT?	NAPL THICKNESS			DEPTH TO LNAPL (ft)	DEPTH TO BOTTOM (ft)	DEPTH TO WATER (ft)	HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT			ONE CASING VOLUME CXD=E	THREE CASING VOLUMES EX 3		
	-							Well Dia	0.75"	2"			4"	6"
	-							Gals/ft	0.02	0.16			0.65	1.47
TIME (HH:MM)	Casing/ Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments			
0903	-	~1.0	10	96.95	21.34	7.25	1.18	5.33	157	153				
0913	-	~1.0	20	96.95	23.07	7.16	1.18	5.41	31.7	148				
0914	-	~1.0	30	96.95	22.35	7.17	1.19	5.63	12.6	112				
0924	-	~1.0	40	96.95	22.28	7.13	1.19	5.13	10.5	99				
0930	-	~1.0	45.6	96.95	22.51	7.13	1.19	4.31	6.8	75				

TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings		
							Pump Speed: 247 Hz	Typ Flow: ~1.0	
0853	0935	~1.0	~47	3	-	96.95	Primary Sample ID: 06-GW-Low-11-20190816		
							Primary Sample Time: (hh:mm)	0932	



Groundwater Monitoring Data Form

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TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

							Control Box Settings	
Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Pump Speed: 233	Typ Flow: ~0.5
1108	1124	~0.5	~6	~1/2	93.12	91.45	Primary Sample ID= OC-GW-DW-1L-20190816	
							Primary Sample Time: (hh:mm) 0947	



Groundwater Monitoring Data Form

Page : 1 of 1

Well Information				Purging Information				Project Information		Well Information		
Well ID #: OW-13B				Date: 8/15/19				Site: Omega		Survey Monitoring Point (MP); TOC (N)		
Well Total Depth: 140				Sampling Event: 3" QTR Semi-Dome GWM				Client Name: De Maximis				
Well Diameter: 4				Purge Equip: 2" Grundfos pump				Project #: E742		Pump Information:		
Screen Interval: 40-140				Purging Method: 3" val				Consultant: JHA Env. Inc.		Pump Model: 2" Grundfos pump		
Pump Depth: 138				Sampling Equipment: -				Sampler: KA, CS		Single System Volume: -		
LNAPL PRESENT?	NAPL THICKNESS			DEPTH TO LNAPL (ft)	A DEPTH TO BOTTOM (ft)	B DEPTH TO WATER (ft)	C HEIGHT OF WATER COLUMN A-B=C	GALLONS PER FOOT			D ONE CASING VOLUME CxD = E	E THREE CASING VOLUMES EX 3
-	-			-	140.0	98.22	41.78	Well Dia	0.75"	2"	4"	6"
								Gals/ft	0.02	0.16	0.65	1.47
TIME (HH:MM)	Casing/Screen	Flow Rate (gpm)	VOLUME (gallons)	DEPTH TO WATER (FT-BMP)	TEMP (deg C)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	ORP (mV)	Comments	
1030	-	~2.0	40	123.55	28.47	7.59	0.956	3.16	536	134	Clear	
1050	-	~2.0	80	125.85	23.16	7.45	0.966	3.92	110	137	"	
1110	-	~2.0	120	126.62	23.97	7.47	0.949	6.57	45.0	154	"	
1133	-	~2.0	163	126.85	23.60	7.46	0.956	3.99	29.9	160	"	

TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings			
							Pump Speed: 277 Hz	Typ Flow: ~2.0	Primary Sample ID: OC-GW-OW-13B-201908, OC-GW-OW-13B-20190819k	
1010	1145	~2.0	~165	3	-	126.85			Primary Sample Time: (hh:mm) 1135	1140



Groundwater Monitoring Data Form

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TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
							Pump Speed:	Typ Flow:
✓	✗	✗	✗	✗	✗	✗	Primary Sample ID=	✗
							Primary Sample Time: (hh:mm)	✗



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Groundwater Monitoring Data Form

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TOC N = Top Of Casing North Side

FT-BMP = Feet Below Measuring Point

Purge Start Time	Purge End Time	Average Flow (gpm)	Total Gallons Purged	Total Casing Volumes Purged	80% Recovery DTW	Sampling Water Level	Control Box Settings	
0908	0937	-	<2	27.1	88.69	84.68	Pump Speed:	Typ Flow:
							Primary Sample ID= OC GN-PZ-9_20190820	Primary Sample Time: (hh:mm) 0815

ATTACHMENT I

Annual Mann-Kendall Analysis

Mann-Kendall Analysis

Omega Chemical Superfund Site

Third Quarter – 2019

Introduction

This memo summarizes the results from a Mann-Kendall test that was performed on groundwater data from two groundwater observation wells at the Omega Chemical Superfund Site, Whittier, California (the Site). In accordance with site-specific USEPA requirements, a groundwater containment remedy (GCR) was installed at the Site to prevent groundwater containing high concentrations of volatile organic compounds from migrating down-gradient of the Site. Groundwater concentrations are monitored twice per year in accordance with the USEPA approved Performance Standards Verification Plan for Phase 1a Area Groundwater Treatment System (PSVP) (CDM, 2007). This Mann-Kendall test was conducted on the concentrations of Tetrachloroethene (PCE), Trichloroethene (TCE) and 1,4-Dioxane (14DIOX) measured in OW9 and OW10 to determine if a trend in the data is present.

According to the Interstate Technology Regulatory Council (ITRC),

"The Mann Kendall statistic (S) is calculated through pair-wise comparisons of each data point with all preceding data points, and determining the number of increases, decreases, and ties. Pairs of non-detects below the reporting limit are "ties" that do not increase or decrease the value of S. A positive value for S implies an upward or increasing temporal trend, whereas a negative value implies a downward or decreasing trend. A value of S near zero suggests there is no significant upward or downward trend. The magnitude of S measures the "strength" of the trend. A statistically significant trend is reported if the absolute value of S is greater than the "critical value" of S (obtained from a table)" (ITRC, 2013).

Data

Two data sets are prepared for this assessment; a comprehensive historical data set¹, using data from 2009-2019 (sample size, n=24¹) and the most recent three years of data, during which time samples were collected biannually (n=6).

The data sets used in this assessment are provided in Table 1. The data were assessed with regard to seasonality; no seasonal correlation was identified. Concentrations that were not detected above the analytical method detection limit are included in the test at the reporting limit value. These data points are indicated in Table 1 with the label "(U)". No field-duplicate data were included in the test.

Method

The test was conducted using the software package "R" which is an open source software package used for statistical interpretation. Statistical confidence is set by the user-defined "alpha" variable. After calculating the "S" value, the probability (p-value) is calculated and is compared to the confidence

¹ Historical concentrations of 1,4-Dioxane at OW10 contained non-detect (ND) values at concentrations that exceeded more recent ND concentrations as a result of improved laboratory instrument precision over time. As these historical ND data did not reflect the true sample population, the values were removed from the data set prior to analysis. This only impacts ND samples collected at OW10 prior to August 22nd, 2012.

interval (“alpha”) to determine whether to accept or reject the null hypothesis (the null hypothesis is that there is no trend). The p-value is a probabilistic function and in this test is acquired through calculation utilizing the before mentioned statistical software. If the p-value is less than the corresponding alpha, then the test is considered statistically significant.

Results

A summary of the results of this study are presented below. Supporting time series charts are also provided as Attachment A (pages 1-20) in which the data sets are fitted with a least squared regression line as well as separate summary that shows the Theil Sen slope estimate and corresponding confidence intervals (dotted lines) at the 95th percentile. Test statistics are provided in Table 2.

Historically Comprehensive Data Set

Compound	Location	Kendall Score (S)	Alpha Value	p-Value
PCE	OW10	-213	95% (0.05)	1.38125E-07
PCE	OW9	-168	95% (0.05)	3.39983E-05
TCE	OW10	-219	95% (0.05)	6.33692E-08
TCE	OW9	-154	95% (0.05)	0.000141671
14DIOX	OW10	12	95% (0.05)	0.544826865
14DIOX	OW9	-29	95% (0.05)	0.487220109

Most Recent Three-Year Data Set

Compound	Location	Kendall Score (S)	Alpha Value	p-Value
PCE	OW10	-2	95% (0.05)	0.848311663
PCE	OW9	-3	95% (0.05)	0.70711422
TCE	OW10	-3	95% (0.05)	0.70711422
TCE	OW9	0	95% (0.05)	1
14DIOX	OW10	8	95% (0.05)	0.18059957
14DIOX	OW9	-5	95% (0.05)	0.452370346

Discussion

A discussion of analyzed data sets is provided below:

Historically Comprehensive Data Set

Both OW9 and OW10 exhibit negative Kendall Scores (S) for all assessed compounds, signifying decreasing concentration trends, with the exception of 1,4-Dioxane at OW10. The strength of the trend is determined by the magnitude of S. In this case, concentrations at OW9 and OW10 show strong to moderate decreasing trends for all modeled compounds, except for 1,4-Dioxane at OW9 and OW10 where the trend is considered weaker. The result is statistically significant when the p-value is less than the corresponding alpha value. In this case, under the user-defined conditions shown in the table above, all trends are considered statistically significant, with the exception of OW9 – 1,4-Dioxane, which exhibits a weak downward trend with low confidence and OW10 – 1,4-Dioxane, which exhibits a weak upward trend with low confidence. For these instances, the p values are greater than our user defined alpha (the user-defined confidence in the result is shown by the alpha number; the lower the alpha, and consequent higher confidence interval, the higher the confidence in the estimation), thus we fail to reject the null hypothesis at the 95% confidence interval and cannot accept the hypothesis that there is a

statistically significant trend for 1,4-Dioxane at OW9 and OW10. However, the S value and the application of additional methodologies for robust fitting of linear trends (Theil-Sen Estimate – Table 2), both recognize a weak downward trend for OW9 and no trend for OW10, therefore, the result is being considered low confidence, but exhibiting a weak downward trend to stable/no trend.

The lower confidence in the trend for 1,4-Dioxane at OW9 likely results from wide variability in the data at that location. The lower confidence at OW10 likely results from a) the reduced sample population (n=14 vs n=24) as well as, b) the proximity to the detectable instrument precision.

Most Recent Three-Year Data Set

Both OW9 and OW10 exhibit negative Kendall Scores (S) for PCE, signifying decreasing concentration trends. OW10 exhibits a negative Kendall Scores (S) for TCE, signifying a decreasing trend, while OW9 exhibits a zero Kendall Score (S) for TCE, signifying no trend. OW10 exhibits a positive Kendall Score (S) for 1,4-Dioxane, signifying an increasing trend, while OW9 exhibits a negative Kendall Score (S), signifying a decreasing trend. The strength of the trend is determined by the magnitude of S. In this case, concentrations at OW9 and OW10 show weak to no trends for all modeled compounds.

The result is statistically significant when the p-value is less than the corresponding alpha value. In this case, under the user-defined conditions shown in the table above, all trends are considered not statistically significant. In all cases, the p value is greater than our user defined alpha, thus we fail to reject the null hypothesis at the 95% confidence interval and cannot accept the hypothesis that there is a statistically significant trend for all compounds in the analysis. However, the S value and the Theil-Sen estimate (Table 2), both continue to recognize a weak downward trend for OW9 and OW10, therefore, the result is being considered low confidence, but exhibiting a weak downward trend to stable/no trend.

The lack of statistical significance is likely derived from the small sample population (n=6) for both OW9 and OW10.

Observations

Summarizing the discussion above, the following are observed:

- Historical concentrations of PCE and TCE at OW10 display strong downward trends, with a high degree of confidence when assessed. Utilizing the most recent three-year data set, the trend is observed to be weakly downward with low confidence.
- Concentrations of 1,4-Dioxane at OW10 under the Historically Comprehensive Data Set are stable/no trend with a low degree of confidence. When utilizing the most recent three-year data set, concentrations show weak upward trend with low confidence.
- Historical concentrations of PCE and TCE are moderately to significantly trending downward at OW9, with a high degree of confidence. Utilizing the most recent three-year data set, the trend is observed to be weakly downward with low confidence for PCE and stable/no trend with a low degree of confidence for TCE.
- Historical concentrations of 1,4-Dioxane at OW9 display a weak downward trend with a low degree of confidence. Variability in the 1,4-Dioxane data at this location are likely resulting in the weak downward trend. Utilizing the most recent three-year data set, the trend is observed to be weakly downward with low confidence.

Conclusions

The statistical significance of the Mann Kendall method increases with sample size. Results of the analysis indicate decreasing trends in concentration for both PCE and TCE using the full historical data record at the 95% confidence level. The historical 1,4-Dioxane data for both OW9 and OW10 is inconclusive of a trend at the 95% confidence level (stable/no trend). Results of the trend analysis combining the Mann Kendall Analysis and Theil Sen Estimate for the most recent three years of data indicate a weak downward trend to stable/no trend for PCE, TCE, and 1,4-Dioxane at OW9 and OW10 but fails to achieve a 95% confidence level. Therefore, the conclusion for the most recent three years of data is that concentrations based on the Mann Kendall analysis are stable/no trend.

As concentrations for analytes approach far reduced concentrations from historical records, monitoring of trends largely reflects the natural variation in sample concentrations and not necessarily any consistent trend in the data set. It is therefore concluded that the trend for OW9 – OW10 for all compounds should be considered slightly downward to stable/no trend.

In accordance with the objective stated in the PSVP, decreasing to stable / no trending concentrations are observed at down-gradient wells OW9 and OW10 (CDM, 2007).

References

- CDM. (2007). *Performance Standards Verification Plan for Phase 1a Area Groundwater Treatment System*.
- ITRC. (2013). *Groundwater Statistics and Monitoring Compliance, Statistical Tools for the Project Life Cycle*. Washington D.C.: <http://www.itrcweb.org/gsmc-1/>.
- US EPA (2016) *CADDIS Volume 4 – Data Analysis*: https://www3.epa.gov/caddis/da_software_rscript1.html

Table 1
Omega Chemical Superfund Site
Mann-Kendall Data Set - Third Quarter 2019

Historically Comprehensive Data Set			Most Recent Three Year Data Set		
Sample Location	Date	TCE - ug/l	Sample Location	Date	TCE - ug/l
OW10	3/4/2009	23	OW9	3/3/2009	1200
OW10	9/2/2009	20	OW9	9/1/2009	1100
OW10	12/29/2009	19	OW9	12/29/2009	920
OW10	3/3/2010	16	OW9	3/2/2010	1300
OW10	6/23/2010	8.6	OW9	6/23/2010	630
OW10	9/1/2010	9.8	OW9	8/31/2010	830
OW10	2/3/2011	6.6	OW9	2/2/2011	1500
OW10	8/24/2011	3.7	OW9	8/24/2011	1400
OW10	2/21/2012	3.1	OW9	2/21/2012	440
OW10	8/22/2012	5.4	OW9	8/21/2012	220
OW10	3/1/2013	5.3	OW9	3/1/2013	220
OW10	8/21/2013	5.2	OW9	8/21/2013	410
OW10	2/18/2014	6.1	OW9	2/19/2014	480
OW10	8/12/2014	4.9	OW9	8/13/2014	720
OW10	2/25/2015	3.6	OW9	2/26/2015	760
OW10	8/13/2015	2.6	OW9	8/14/2015	580
OW10	2/11/2016	2.6	OW9	2/11/2016	280
OW10	8/19/2016	1.2	OW9	8/19/2016	340
OW10	2/13/2017	2.5	OW9	2/14/2017	350
OW10	8/9/2017	2.7	OW9	8/10/2017	150
OW10	2/15/2018	1.1	OW9	2/13/2018	220
OW10	8/23/2018	1.4	OW9	8/23/2018	200
Sample Location	Date	PCE - ug/l	Sample Location	Date	PCE - ug/l
OW10	3/4/2009	220	OW9	3/3/2009	28000
OW10	9/2/2009	200	OW9	9/1/2009	26000
OW10	12/29/2009	210	OW9	12/29/2009	20000
OW10	3/3/2010	150	OW9	3/2/2010	18000
OW10	6/23/2010	110	OW9	6/23/2010	15000
OW10	9/1/2010	120	OW9	8/31/2010	20000
OW10	2/3/2011	68	OW9	2/2/2011	23000
OW10	8/24/2011	57	OW9	8/24/2011	21000
OW10	2/21/2012	48	OW9	2/21/2012	9000
OW10	8/22/2012	71	OW9	8/21/2012	4500
OW10	3/1/2013	61	OW9	3/1/2013	3700
OW10	8/21/2013	55	OW9	8/21/2013	6400
OW10	2/18/2014	73	OW9	2/19/2014	8600
OW10	8/12/2014	63	OW9	8/13/2014	16000
OW10	2/25/2015	48	OW9	2/26/2015	11000
OW10	8/13/2015	37	OW9	8/14/2015	15000
OW10	2/11/2016	27	OW9	2/11/2016	5200
OW10	8/19/2016	19	OW9	8/19/2016	8100
OW10	2/13/2017	29	OW9	2/14/2017	5300
OW10	8/9/2017	37	OW9	8/10/2017	2100
OW10	2/15/2018	15	OW9	2/13/2018	5000
OW10	8/23/2018	19	OW9	8/23/2018	4000
Sample Location	Date	1,4-Dioxane - ug/l	Sample Location	Date	1,4-Dioxane - ug/l
OW10	3/1/2013	0.21	OW9	3/3/2009	1000
OW10	8/21/2013	0.15	OW9	9/1/2009	830
OW10	2/18/2014	0.12	OW9	12/29/2009	630
OW10	8/12/2014	0.095 U	OW9	3/2/2010	910
OW10	2/25/2015	0.25	OW9	6/23/2010	700
OW10	8/13/2015	0.1	OW9	8/31/2010	930
OW10	2/11/2016	1 U	OW9	2/2/2011	1600
OW10	8/19/2016	0.13	OW9	8/24/2011	1400
OW10	2/13/2017	0.21 U	OW9	2/21/2012	520
OW10	8/9/2017	0.12	OW9	8/21/2012	260
OW10	2/15/2018	0.49 U	OW9	3/1/2013	300
OW10	8/23/2018	0.12	OW9	8/21/2013	430
OW10	2/12/2019	0.66	OW9	8/13/2014	340
OW10	8/20/2019	0.16	OW9	8/26/2015	960

Table 2 - Mann-Kendall Summary - Omega Chemical Superfund Site -Third Quarter 2019

**Historically Comprehensive
Summary Statistics**

Parameter	Location	n	Mean	Standard Deviation	Median	Trimmed Mean	Median Absolute Deviation	Minimum	Maximum	Range	Skew	Kurtosis	Standard Error
PCE	OW10	24	74.083	62.361	56.0	65.700	41.513	15	220	205	1.202	0.159	12.729
PCE	OW9	24	11825.0	7969.521	8800.0	11200.000	7338.870	2100	28000	25900	0.529	-1.188	1626.772
TCE	OW10	24	6.6	6.414	4.3	5.600	3.039	1	23	22	1.362	0.519	1.309
TCE	OW9	24	612.9	423.284	460.0	573.000	355.824	150	1500	1350	0.723	-0.887	86.402
14DIOX	OW10	14	0.2	0.170	0.1	0.184	0.056	0.0	1	0.6	1.564	1.275	0.045
14DIOX	OW9	24	792.9	336.755	815.0	773.500	274.281	260	1600	1340	0.469	-0.246	68.740

Mann Kendall Analysis

Parameter	Location	Kendall Score (S)	Denominator	Tau	Var(score)	2-sided p value	Theil Sen Estimate
PCE	OW10	-213	273.4886	-0.778825998	1619.6666	1.38125E-07	-12.87
PCE	OW9	-168	274.9982	-0.610913157	1623.3334	3.39983E-05	-1989.24
TCE	OW10	-219	275.4995	-0.79491967	1624.3334	6.33692E-08	-1.05
TCE	OW9	-154	272.9835	-0.564136684	1616.6666	0.000141671	-88.62
14DIOX	OW10	12	89.4874	0.13409704	330	0.544826865	0.01
14DIOX	OW9	-29	275.4995	-0.10526333	1624.3334	0.487220109	-14.86

Most Recent Three Years

Summary Statistics

Parameter	Location	n	Mean	Standard Deviation	Median	Trimmed Mean	Median Absolute Deviation	Minimum	Maximum	Range	Skew	Kurtosis	Standard Error
PCE	OW10	6	23.500	8.093	20.5	23.500	5.189	15	37	22	0.574	-1.439	3.304
PCE	OW9	6	4216.7	1144.407	4450.0	4216.667	741.300	2100	5300	3200	-0.848	-0.874	467.202
TCE	OW10	6	1.8	0.668	1.5	1.767	0.445	1	3	2	0.422	-1.904	0.273
TCE	OW9	6	230.0	66.332	220.0	230.000	29.652	150	350	200	0.678	-0.855	27.080
14DIOX	OW10	6	0.2	0.214	0.1	0.235	0.041	0	1	1	1.204	-0.371	0.088
14DIOX	OW9	6	716.7	188.644	700.0	716.667	207.564	480	980	500	0.118	-1.839	77.014

Mann Kendall Analysis

Parameter	Location	Kendall Score (S)	Denominator	Tau	Var(score)	2-sided p value	Theil Sen Estimate
PCE	OW10	-2	14.4914	-0.138013095	27.333334	0.848311663	-2.8
PCE	OW9	-3	15.0000	-0.199999988	28.333334	0.70711422	-300.82
TCE	OW10	-3	15.0000	-0.199999988	28.333334	0.70711422	-0.36
TCE	OW9	0	14.4914	0	27.333334	1	0
14DIOX	OW10	8	14.4914	0.552052379	27.333334	0.18059957	0.03
14DIOX	OW9	-5	15.0000	-0.333333313	28.333334	0.452370346	-158.98

n = number of discrete samples in dataset.

Mean = A central value of a discrete set of numbers.

Standard Deviation = A measure of how spread out numbers are and is equal to square root of the variance.

Median = Is the value separating the higher half of a dataset.

Trimmed Mean = A method of averaging that removes a small designated percentage of the largest and smallest values before calculating the mean.

Median Absolute Deviation = A robust measure of the variability of a univariate sample of quantitative data.

Minimum = The minimum value in the dataset.

Maximum = The maximum value in the dataset.

Range = The difference between the lowest and highest values.

Skew = A measure of the asymmetry of the probability distribution of a real-valued random variable about its mean.

Kurtosis = A statistical measure that's used to describe the distribution, or skewness, of observed data around the mean.

Standard Error = The standard deviation of the sampling distribution of the mean.

Kendall Score - (S) = Kendall Score.

Denominator = The maximum possible value of S.

Tau = Kendall Tau Statistic (Kendall Score / Denominator).

Var(score) = Variance in Kendall Score (S).

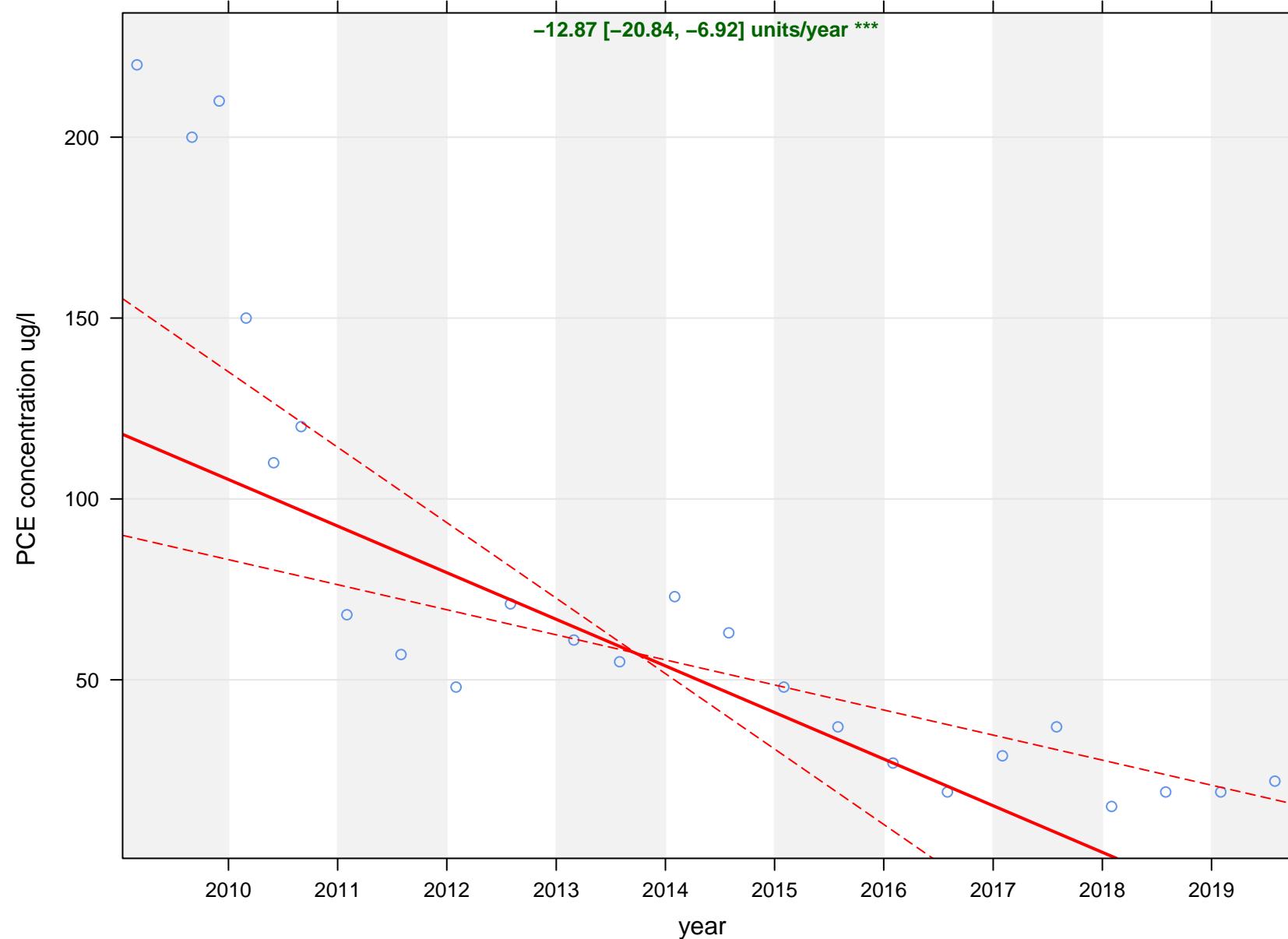
2-sided p-value = The probability of finding the observed, or more extreme, results when the null hypothesis (H 0) of a study question is true.

Theil Sen Estimate = A method for robustly fitting a line to a set of points (simple linear regression) that chooses the median of the slopes of all lines through pairs of two-dimensional sample points.

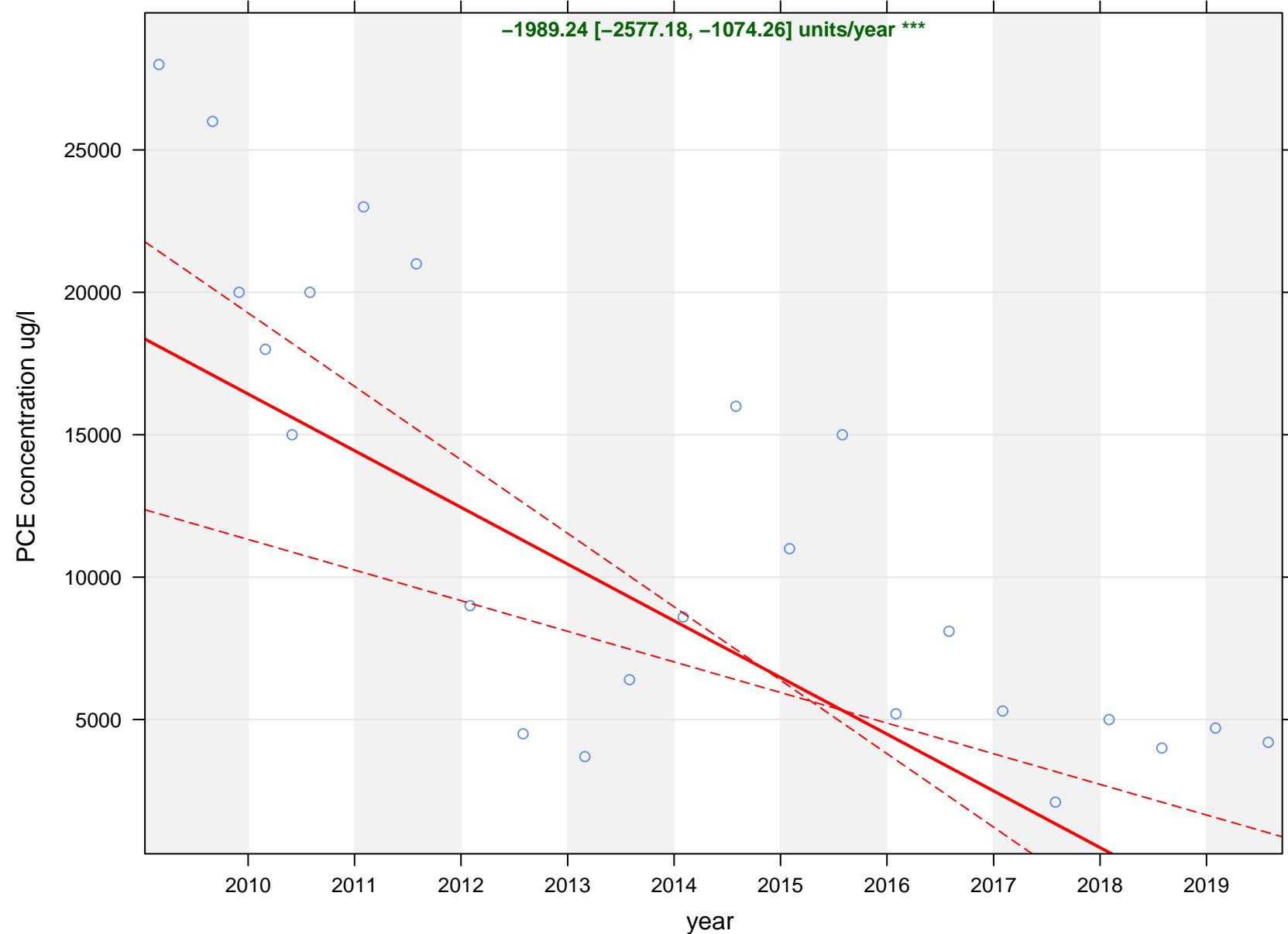
ATTACHMENT A

Historically Comprehensive Analysis

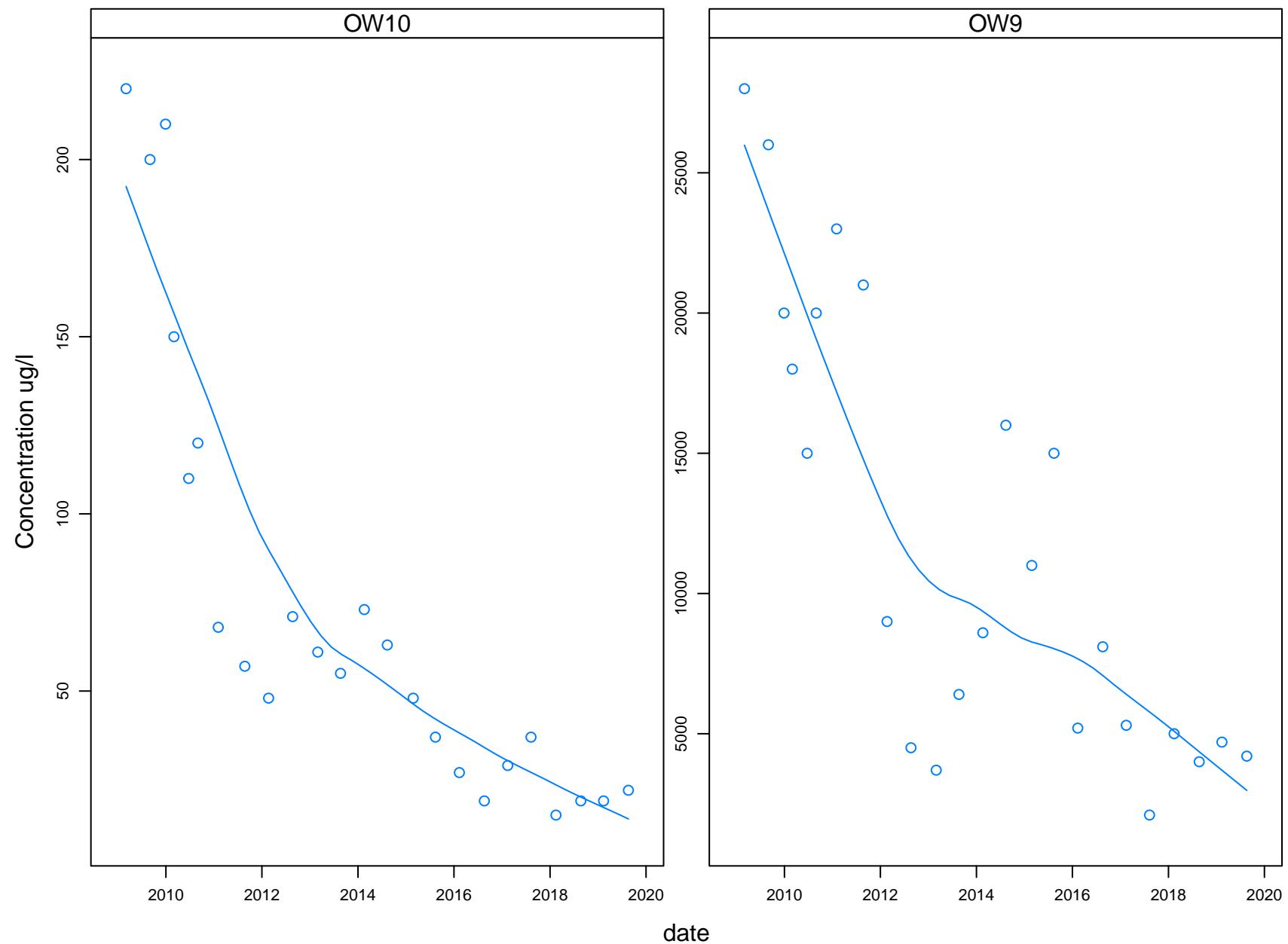
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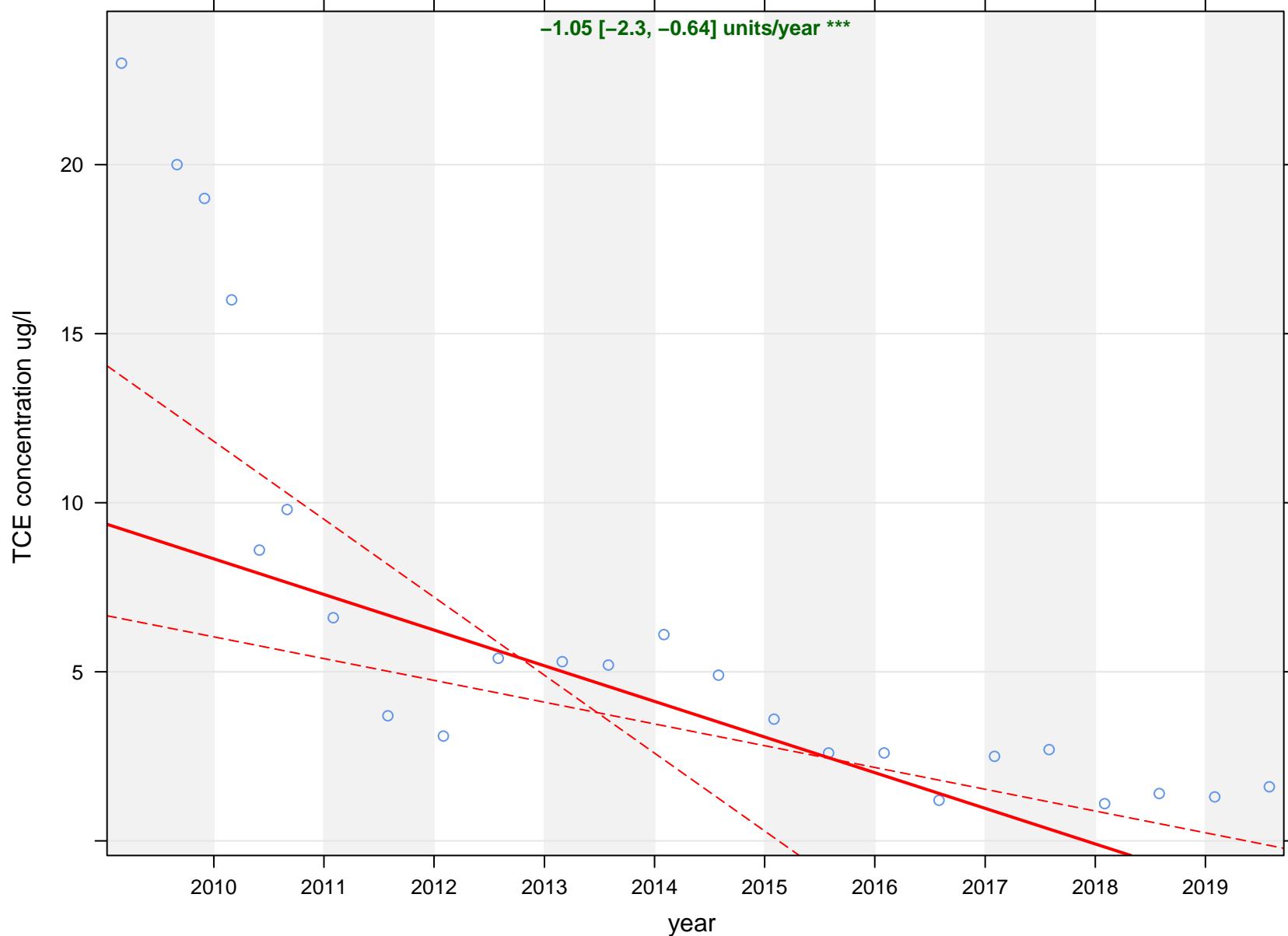
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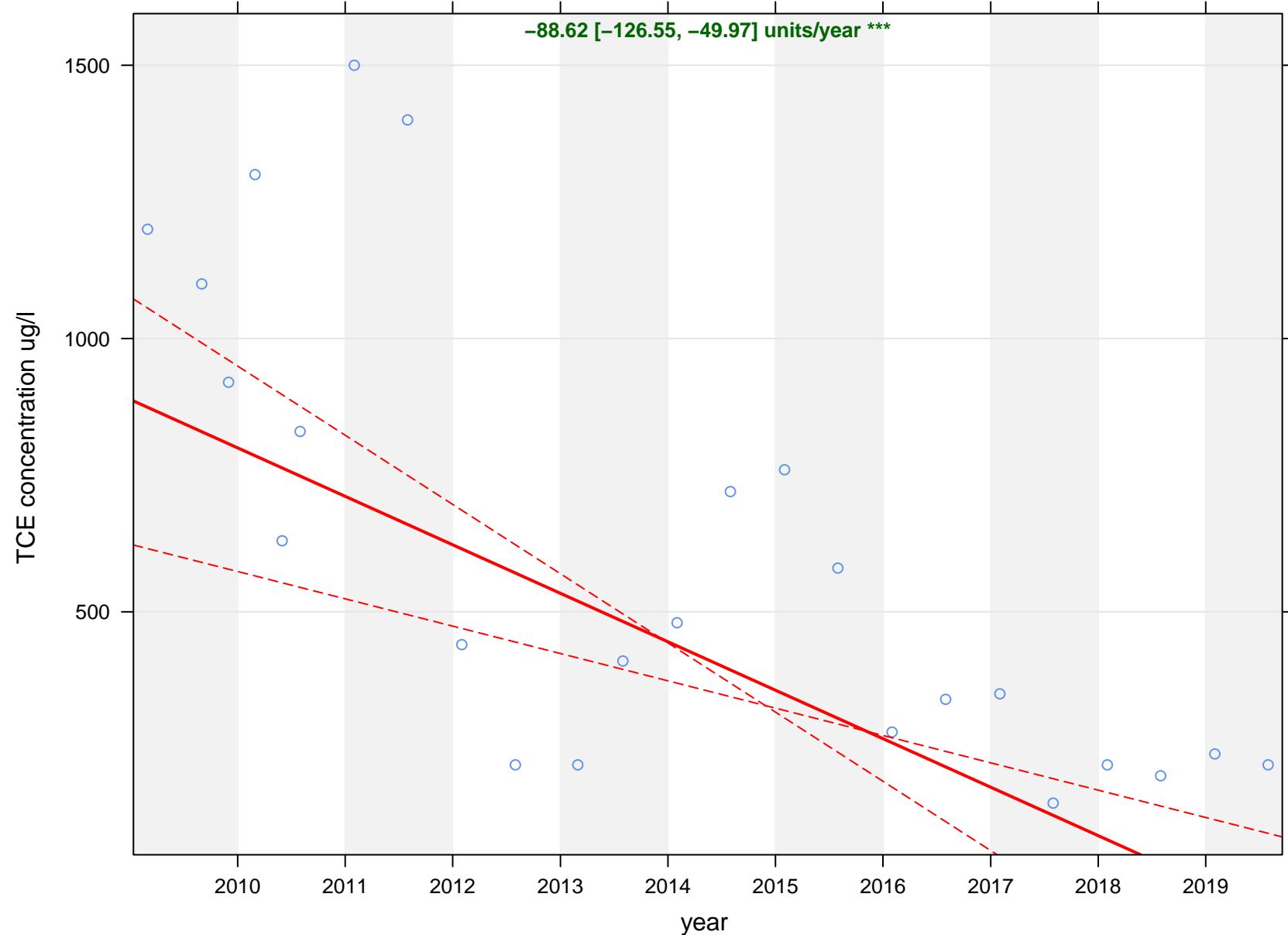
PCE concentration ug/l



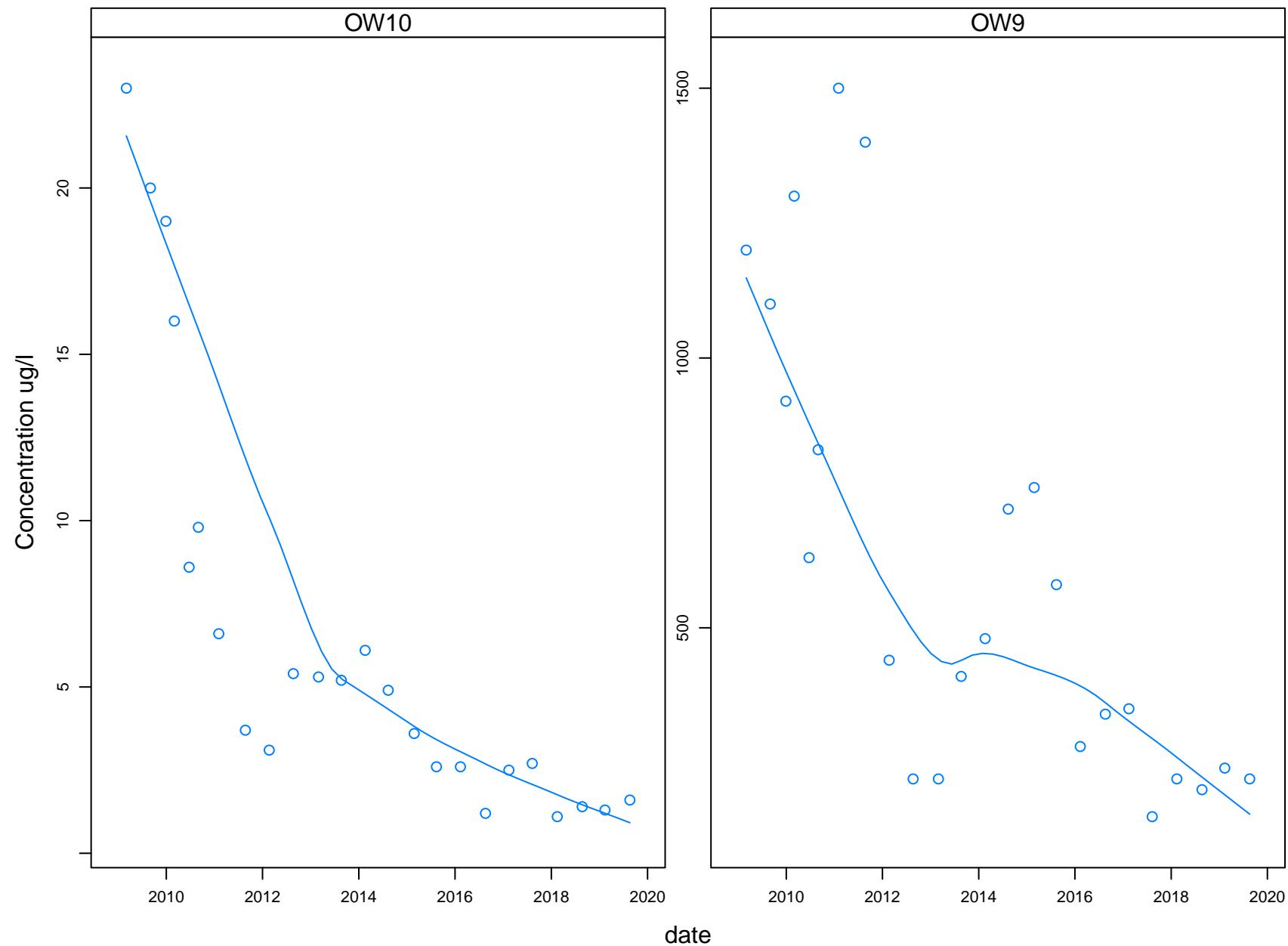
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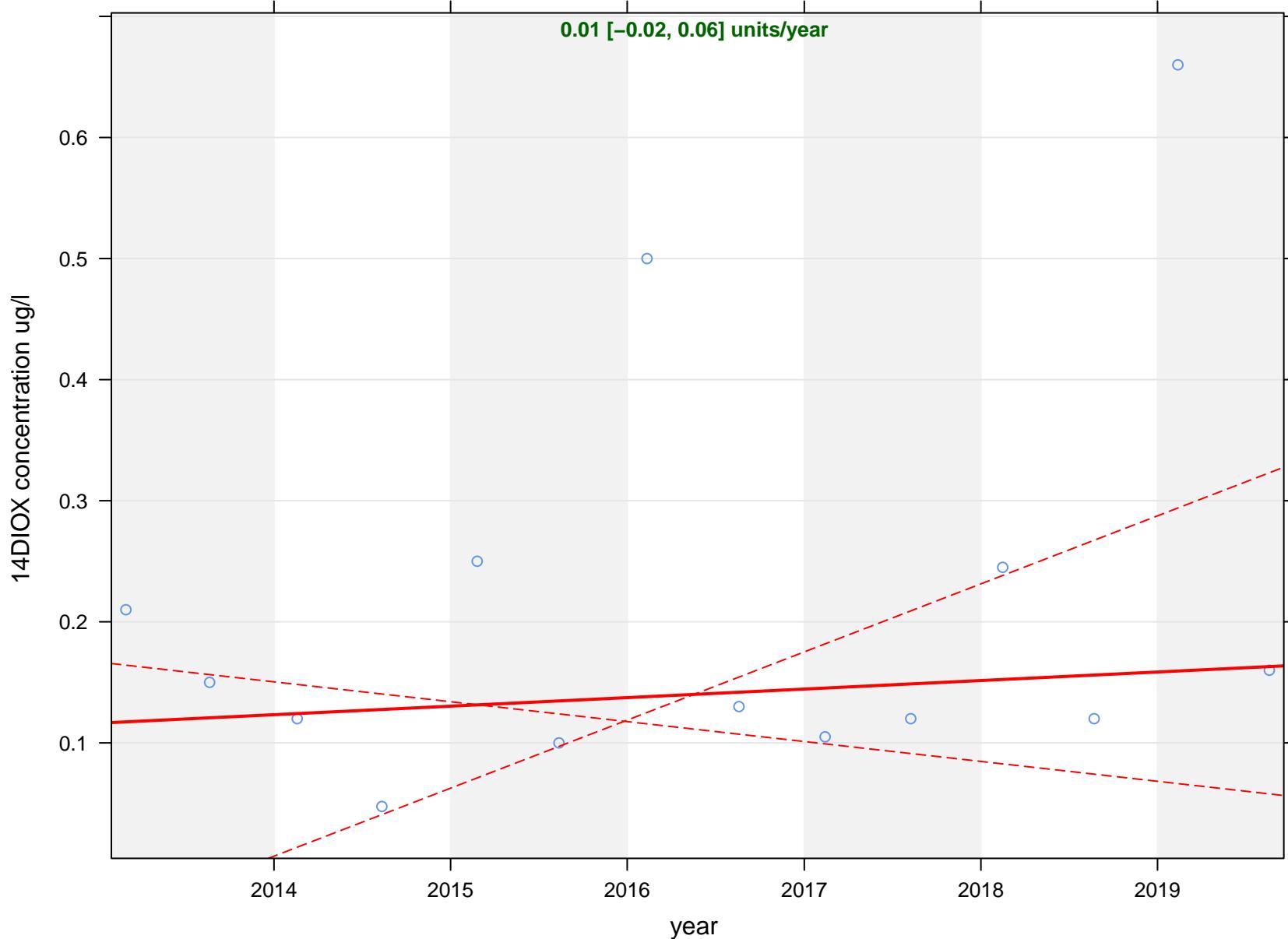
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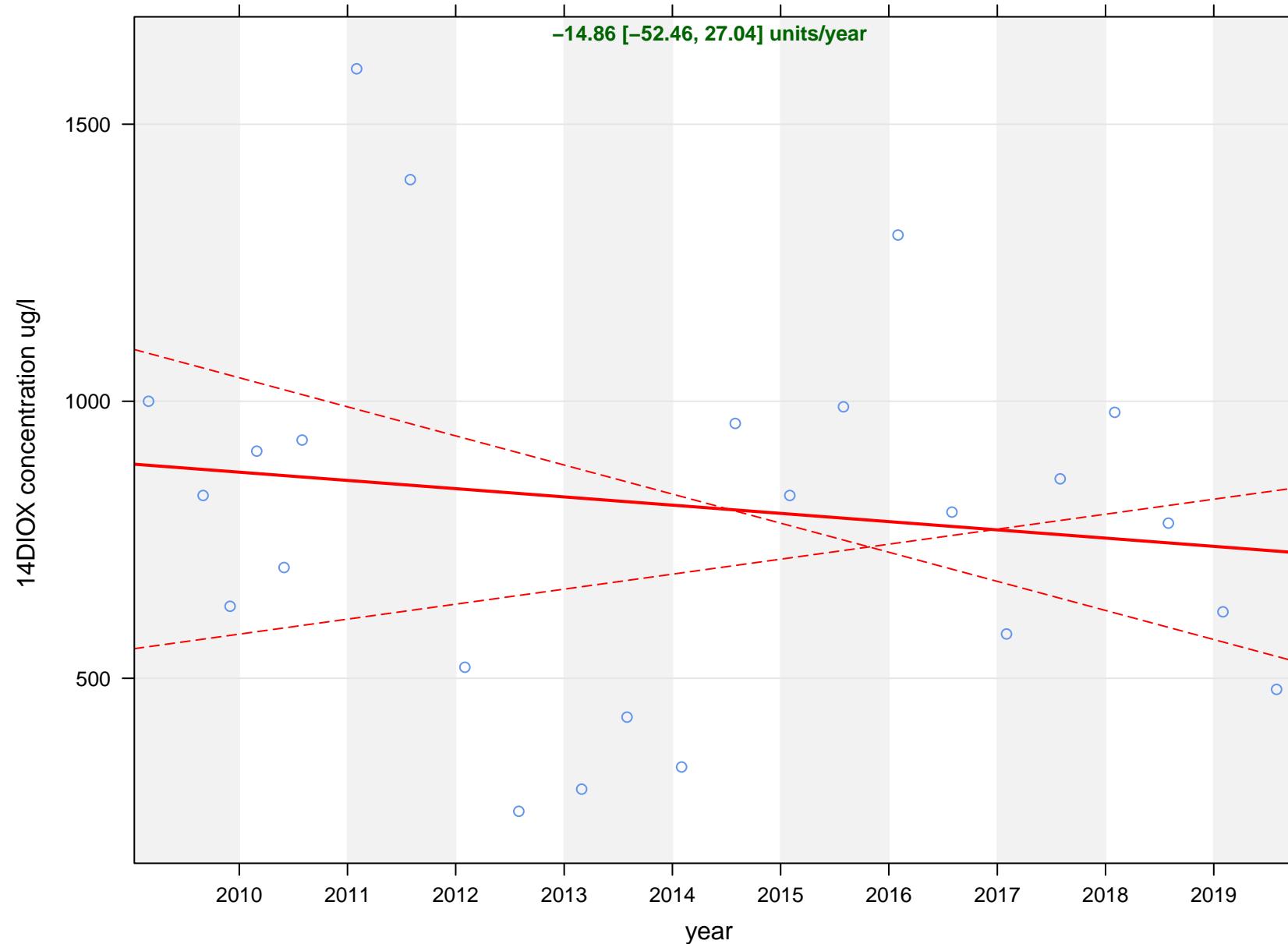
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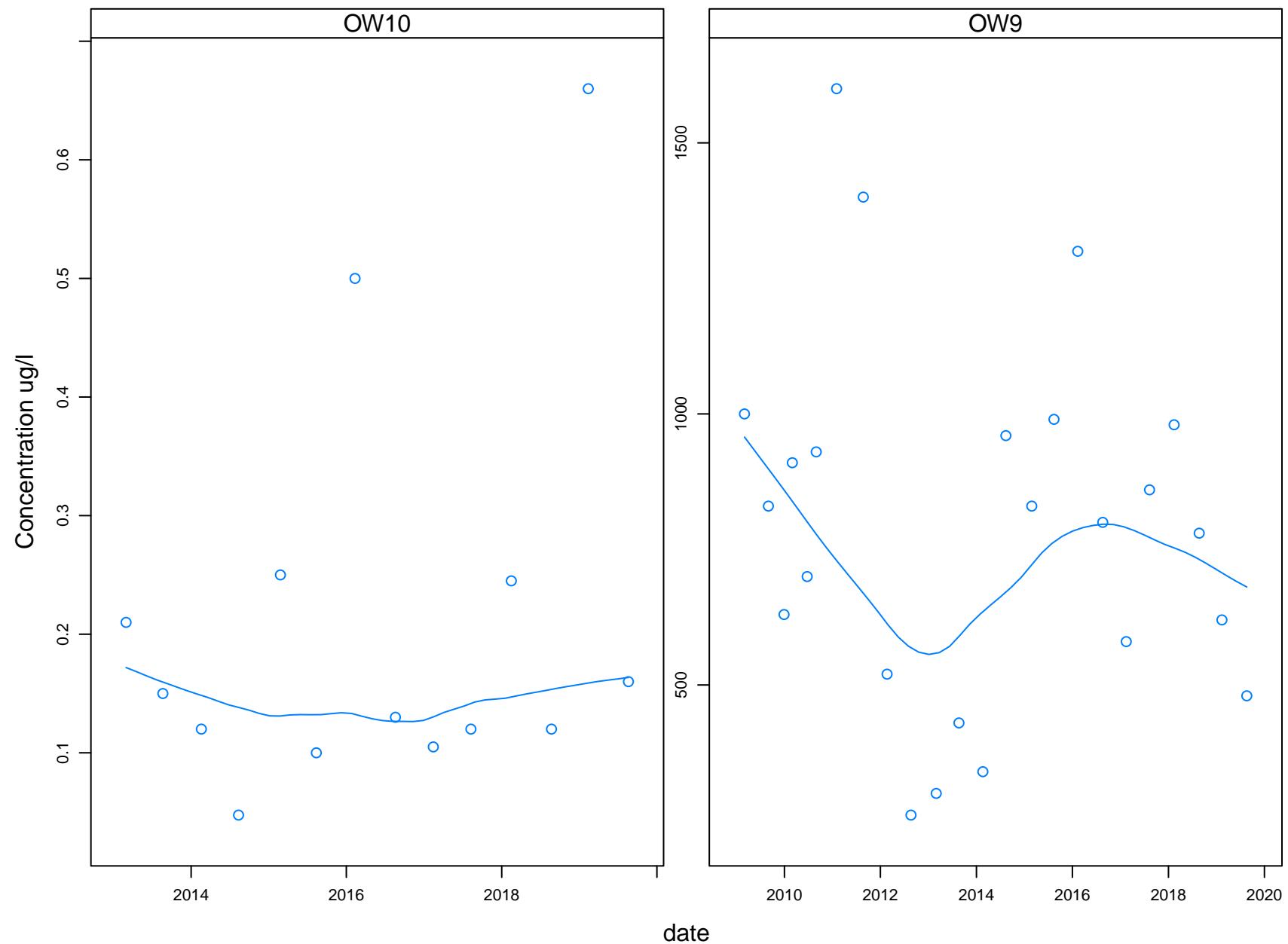
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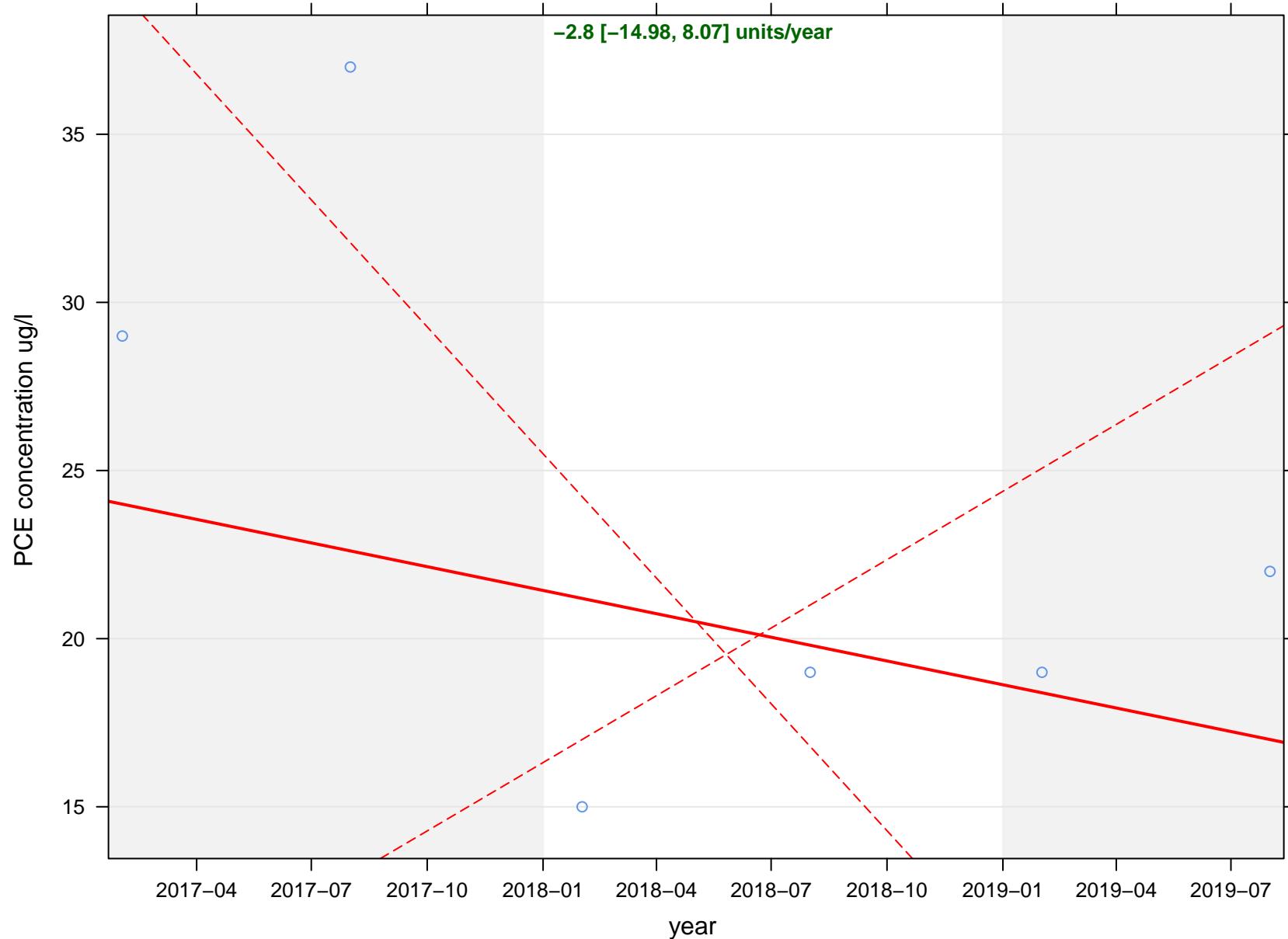


14DIOX concentration ug/l

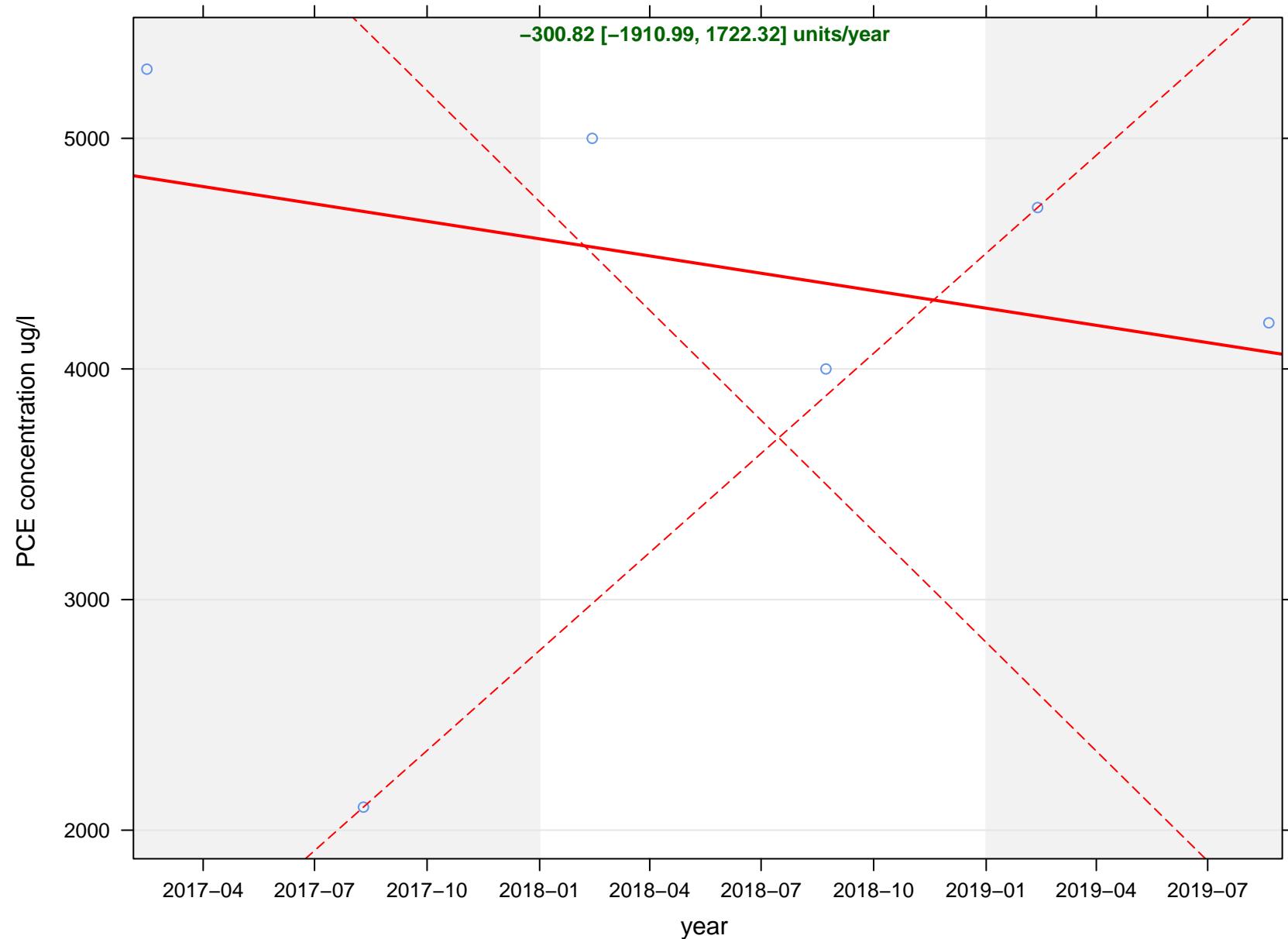


Most Recent Three-Year Analysis

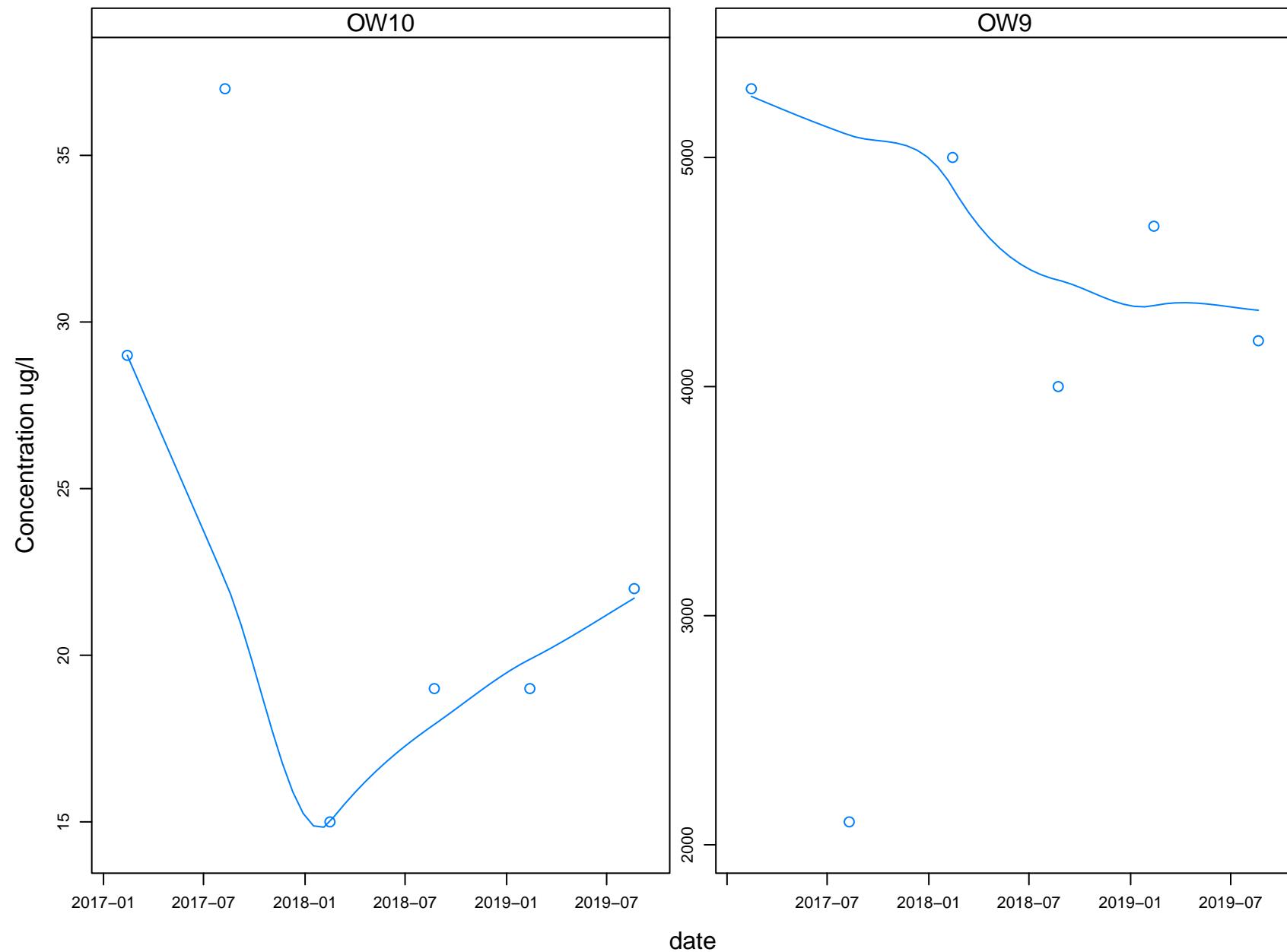
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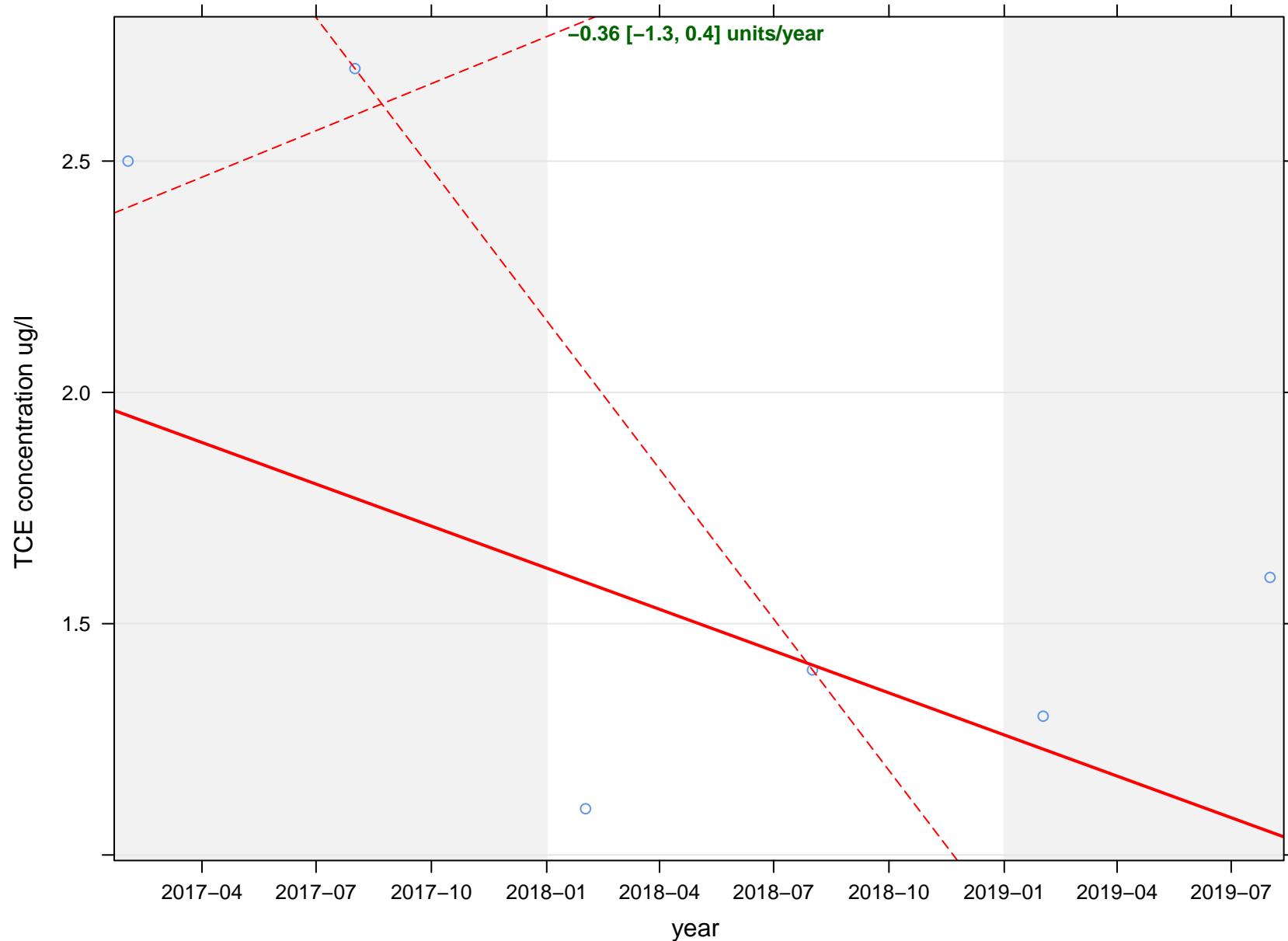
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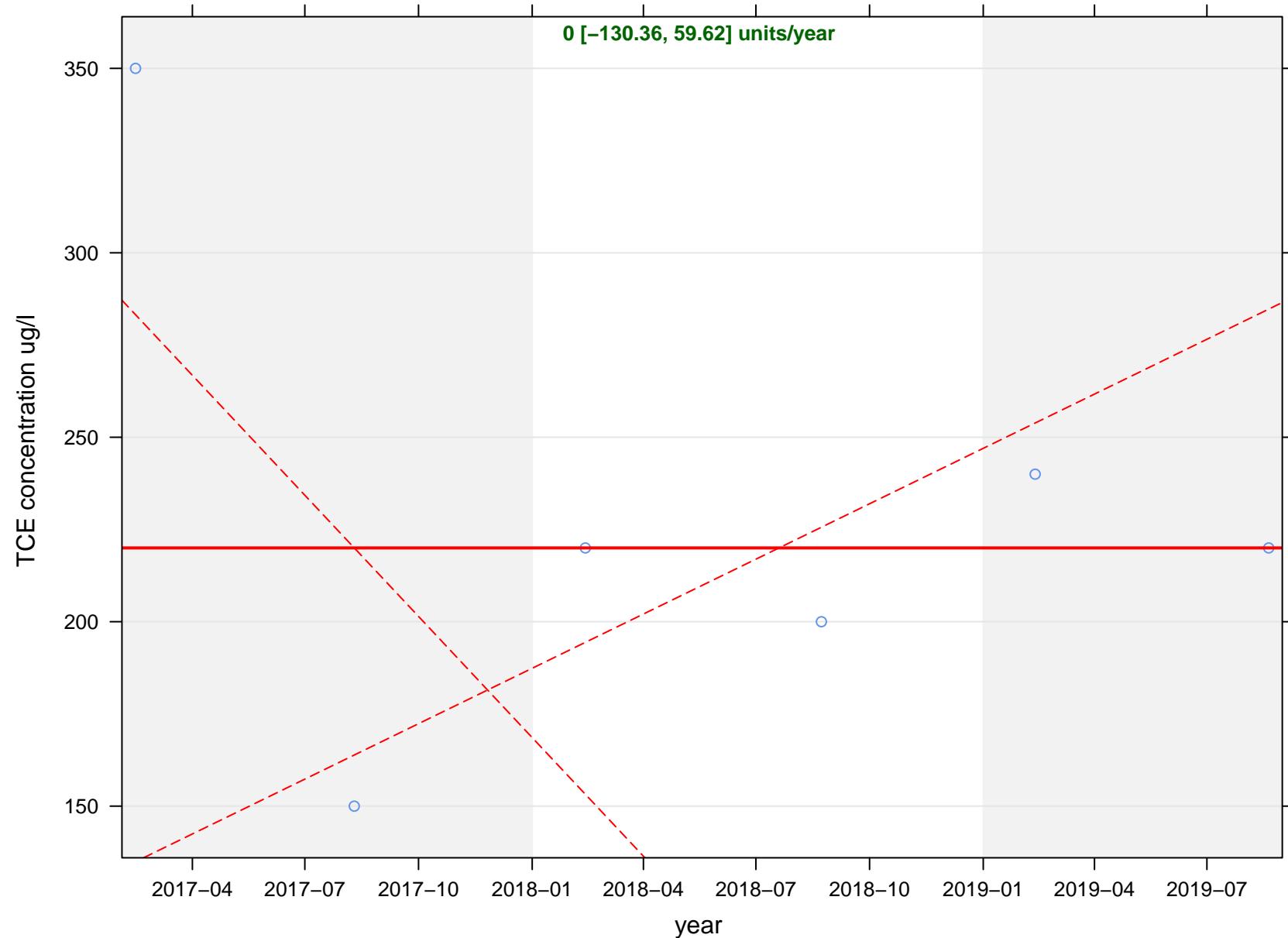
PCE concentration ug/l



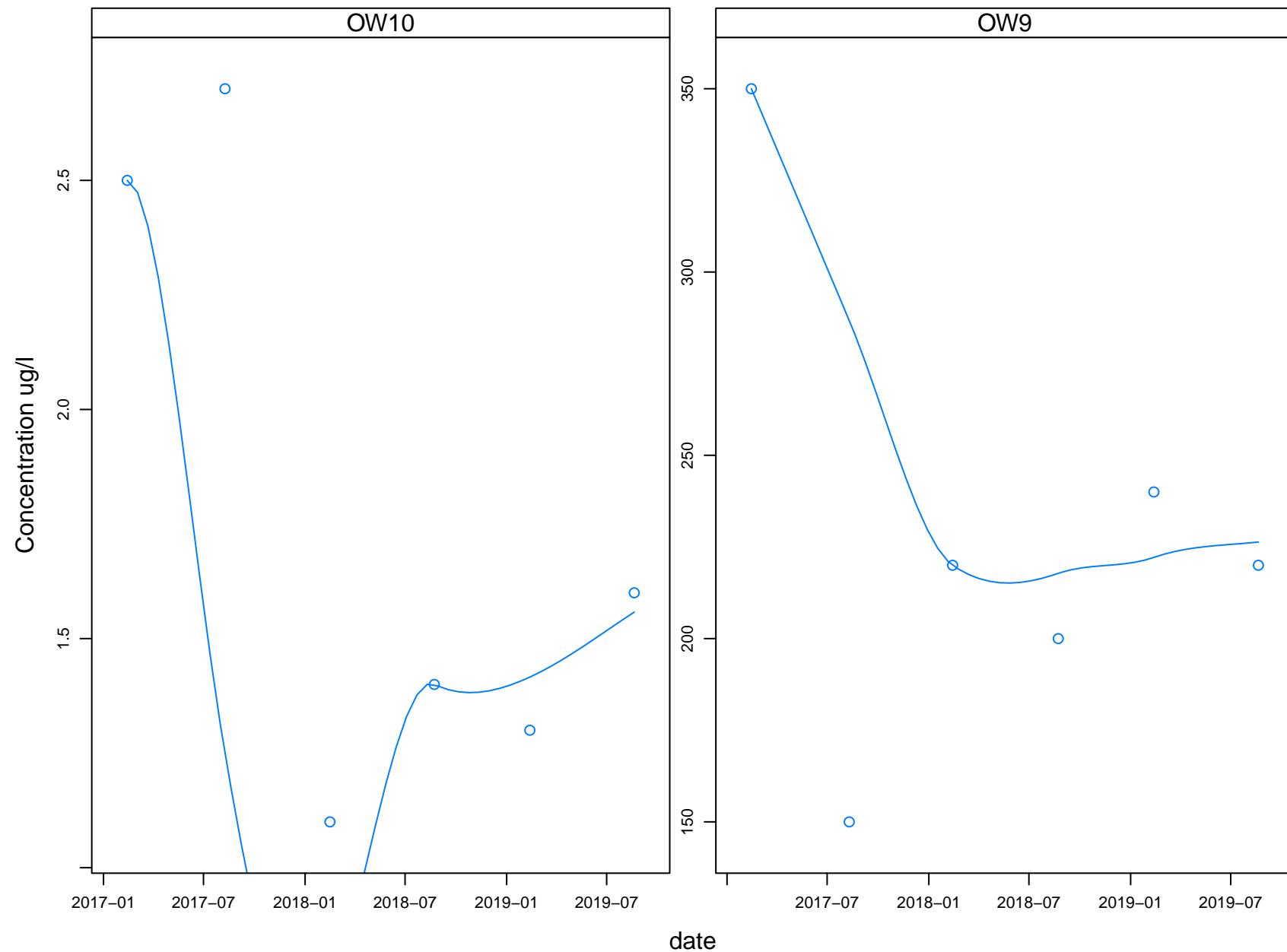
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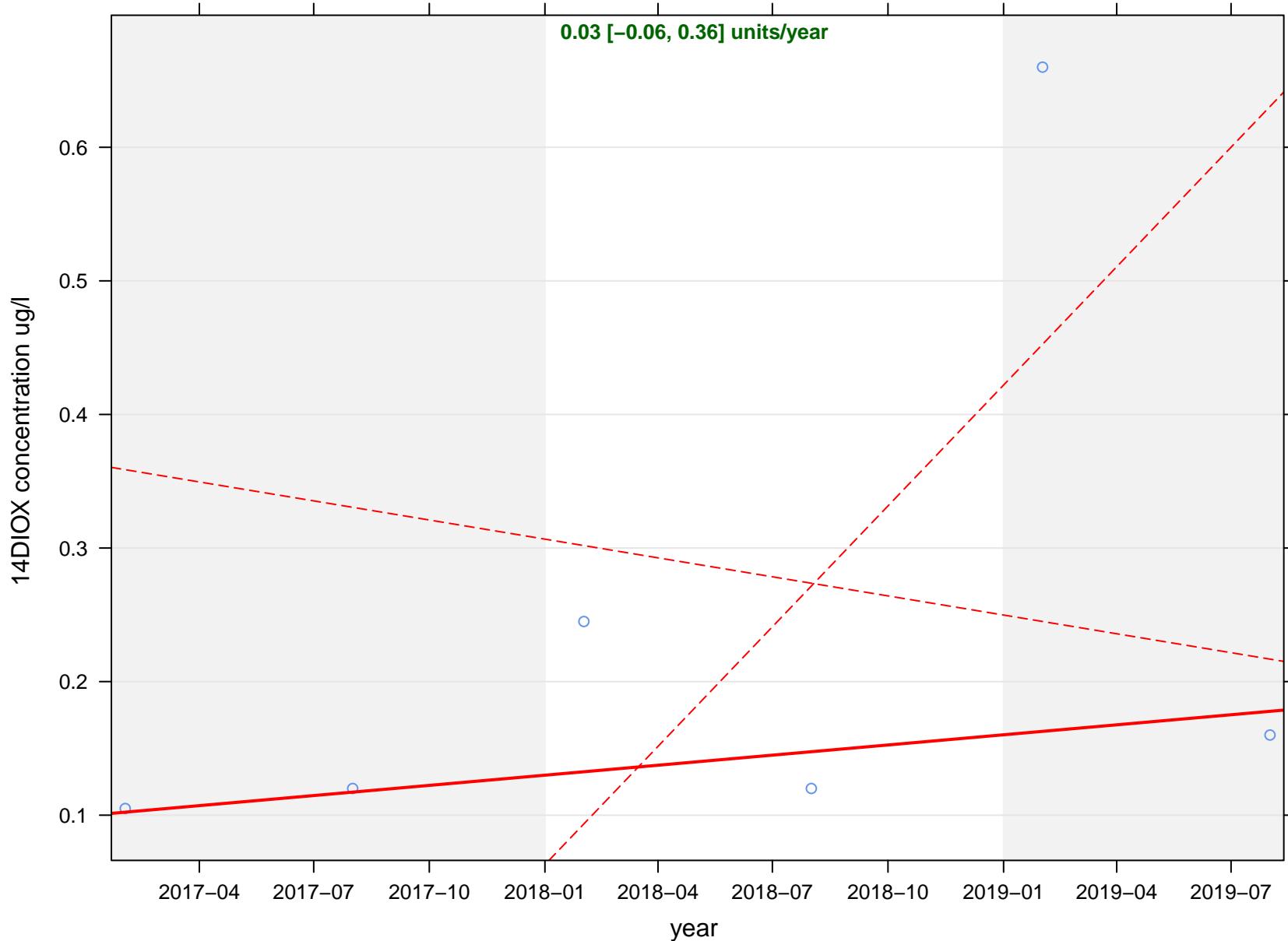
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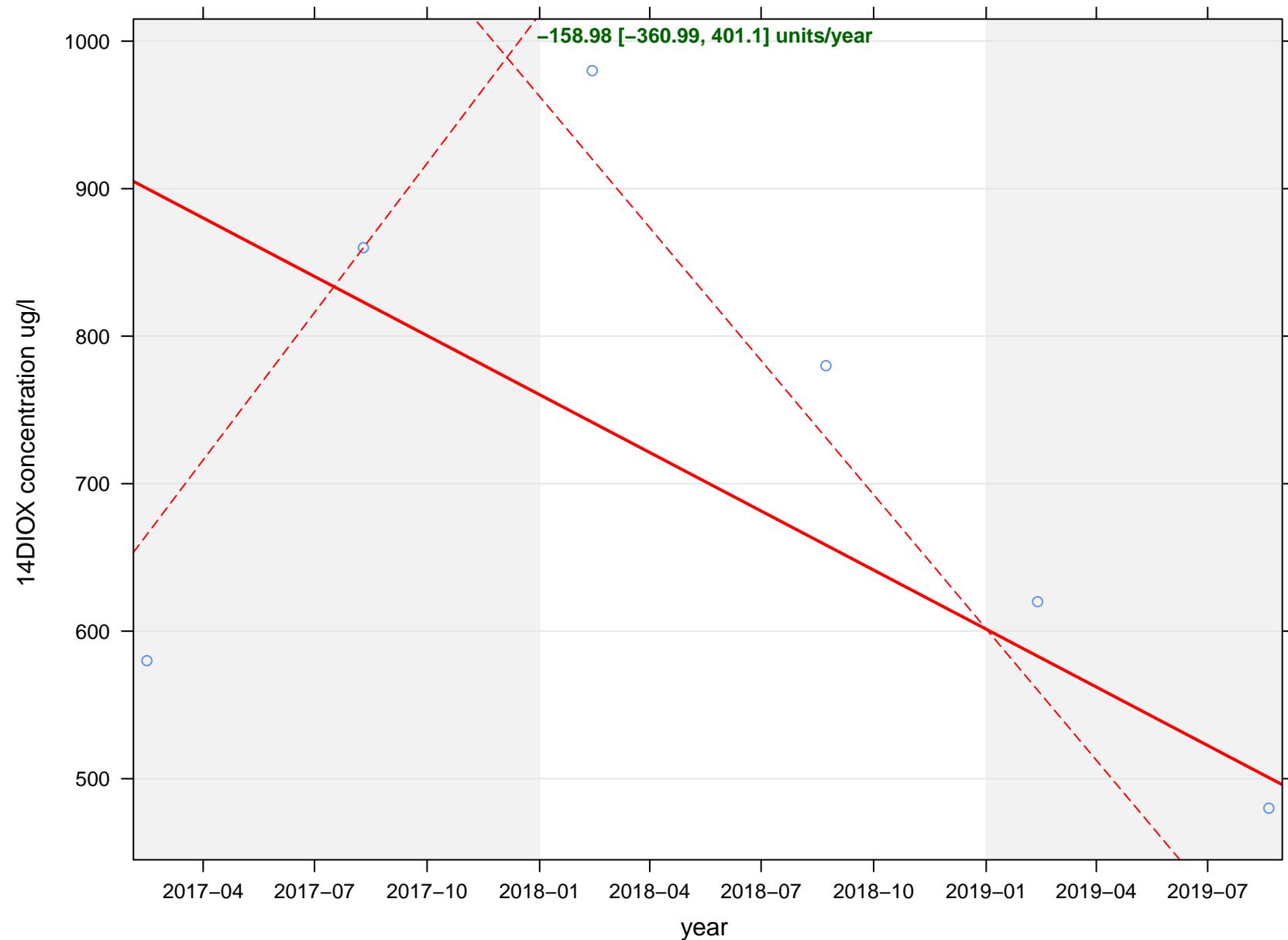
TCE concentration ug/l



OW10



OW9



14DIOX concentration ug/l

